THE JOURNAL OF THE AMERICAN OSTEOPATHIC ASSOCIATION

Vol. 37, No. 3 | 540 N. Michigan Ave., Chicago, Ill. | November, 1937

Will there be a star after your name in the membership list in the 1938 Directory? A.O.A. and Divisional Society dues paid now insures this listing. Avoid disappointment—Act today!

The Christmas issues of the Osteopathic Magazine and Osteopathic Health will convey your greetings to patients and friends. Order now for future sure delivery. Further details on pages 32 and 33.

Two Decidedly Practical Books

Wolf's Endocrinology

This is a book of *applied* facts—of precise clinical help. It contains discussions not only of the various endocrinopathies, but also of the many frequent and common non-endocrine diseases that have endocrine aspects. Dr. Wolf takes up such disorders of common occurrence as menstrual disturbances, pregnancy, sterility, etc. He devotes an entire chapter to each of the more commonly practiced specialties, places special stress on problems of growth, metabolism, nutrition, sexual function, etc. and includes a section on *Commercial Glandular Products* in which are listed the names of the manufacturers, the units in which sold, potency equivalents, dosage, and indications for use.

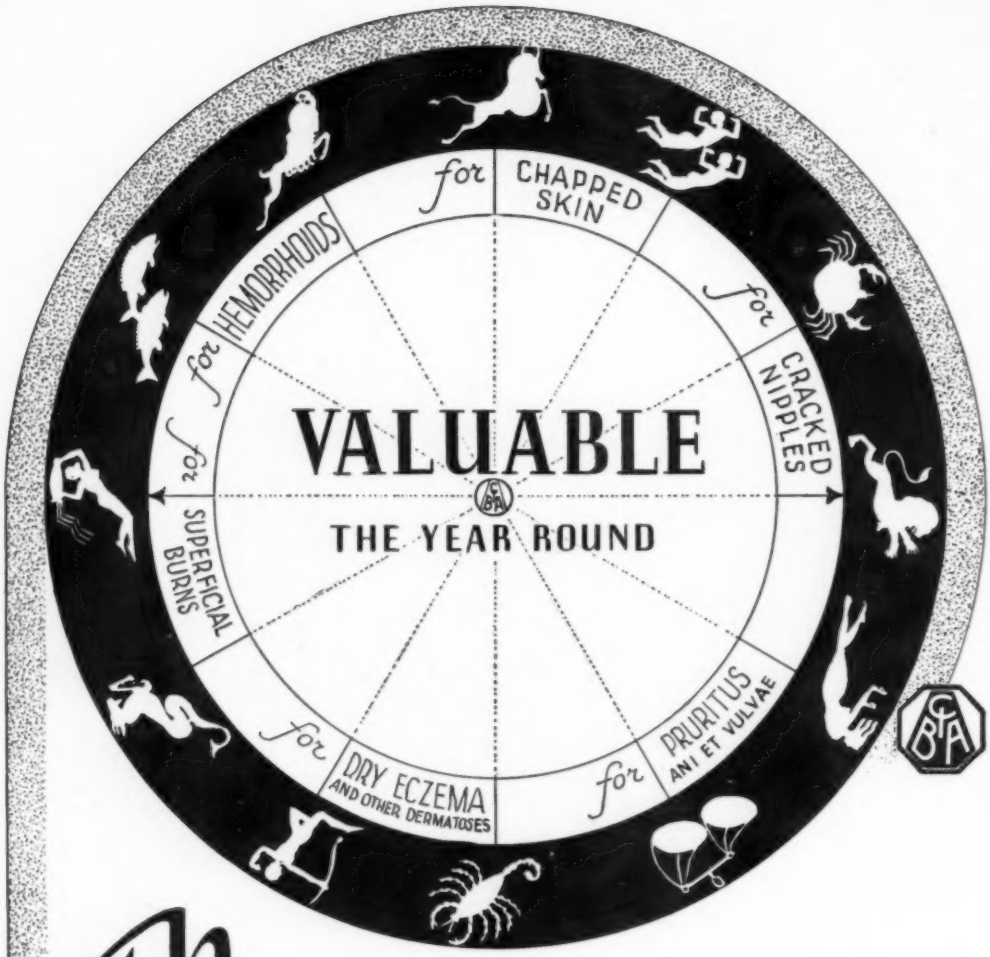
By William Wolf, M.D., M.S., PH.D. Octavo of 1018 pages, 253 illustrations. Cloth, $10.00 net.

Major's Physical Diagnosis

The four cardinal methods—*inspection, palpation, percussion and auscultation* — and their *application at the bedside*. That is what Dr. Major gives you. He shows you *how to see, feel, and to hear* the physical signs indicative of disease or abnormal conditions in the entire body. He tells you what these signs mean and the physical causes that produce them. He constantly points the way to more accurate diagnosis by warning you of pitfalls and other errors which may draw you from the correct paths. He deals always in detail—step-by-step technic, vivid contrast between normal and abnormal, the precise description of physical signs and interpretations of these signs. There is an excellent chapter on *Pain*.

By Ralph H. Major, M.D., Professor of Medicine in the University of Kansas. 457 pages; 427 illustrations. Cloth, $5.00 net.

W. B. SAUNDERS COMPANY — **Philadelphia and London**



Nupercainal "Ciba"

the Soothing, Antipruritic Ointment with Prolonged Local Anesthetic Action.

Physicians do not stop prescribing NUPERCAINAL after the sunburn season. They keep using this ointment of prolonged local anesthetic effect throughout the autumn, winter, and spring. NUPERCAINAL offers speedy relief to pain and itching in a wide variety of cases.

Pharmacists can supply NUPERCAINAL in one ounce tubes or in larger quantities from the one pound tin.

CIBA PHARMACEUTICAL PRODUCTS Inc., Summit, N. J.

ANNOUNCING A NEW TAYLOR FEVER THERMOMETER

[Taylor presents a basic improvement in fever thermometers . . .]

New BINOC Fever Thermometer is optically correct . . . easier to use and read. Tests show it is three times easier for average person to read than previous types

HERE is a fever thermometer so different that it commands immediate interest and the approval of doctors who see and examine it.

The new BINOC Fever Thermometer is different in shape . . . and in visibility. It is optically correct in design. Its triple-lens tubing reveals a mercury column from two to three times more visible than the column in the old single-lens type.

The BINOC tubing developed by Taylor concentrates more light on the mercury column. Its construction eliminates tricky bore reflections. The flattened BINOC tubing ends twisting and turning to find the mercury column. It has only two sides—front and back.

Your hand grasps the thermometer in the one position for instant reading. The shape is designed to be more convenient to handle . . . easier for the patient to retain under tongue or arm . . . and easier to hold firmly for shaking down.

Doctors have confirmed these advantages. And the average user has welcomed an easier-to-read thermometer. A stop-watch test among many men and women shows that the new BINOC Fever Thermometer is three times easier to read than high quality single-lens types now sold. Some women even said, "This is the first fever thermometer I've ever been able to read."

It is fitting that Taylor should introduce this development, with its many years' experience in making fever thermometers and other instruments for the medical profession, as well as scientific instruments of many kinds for industry. Taylor fever thermometers have long represented the highest in quality. With the new BINOC Fever Thermometers Taylor makes another outstanding contribution to the profession and to the comfort and health of people everywhere.

See this new thermometer. Test its ease of reading. You'll find it a thermometer to recommend to mothers . . . to any family which desires to guard its members from sickness. Your surgical supply dealer has both oral and rectal types . . . in handsome, flat cases with gold-plated clasps and bands. Taylor Instrument Companies, Rochester, N.Y. or Toronto, Canada.

Taylor BINOC FEVER THERMOMETER

REG. U. S. PAT. OFF.

BY MAKERS OF TYCOS MERCURIAL AND CERTIFIED TYCOS ANEROID SPHYGMOMANOMETERS, AND TAYLOR PAVAEX

CONTENTS, NOVEMBER, 1937

ORIGINAL ARTICLES—

The Menace of New Medical Discoveries. Louis C. Chandler, M.A., D.O., Los Angeles 85

Hemolytic Streptococcic Throat Infection. Ralph D. Vorhees, D.O., Cleveland 88

Appendicitis. Harry L. Collins, M.D., D.O., Chicago 91

Symposium on The Plastic Basicranium. I. The Basicranium. Charles L. Naylor, D.O., Ravenna, Ohio 94

Osteopathic Treatment of the Common Cold. Arthur D. Becker, D.O., Des Moines, Iowa 97

NATIONAL CONVENTION NEWS 100

EDITORIALS—

The Sulfanilamide Fiasco. Ray G. Hulburt, D.O., and R. E. Duffell, D.O., Chicago 101

To Advance Osteopathy. Arthur E. Allen, D.O., Minneapolis 102

A Challenge Indeed. Ray G. Hulburt, D.O., Chicago 103

Not to Be Wasted. Ray G. Hulburt, D.O., Chicago 104

Cranial Vertebrae. Ray G. Hulburt, D.O., Chicago 104

COMMITTEE ON PUBLIC AND PROFESSIONAL WELFARE—

Opportunity—Synonym: Duty. Ray G. Hulburt, D.O., Chicago 105

DEPARTMENT OF PUBLIC AFFAIRS—

Legal and Legislative 105

COMMITTEE ON SPECIAL MEMBERSHIP EFFORT—

Membership Status and Honor Roll. F. A. Gordon, D.O., Marshalltown, Iowa 105

BUREAU OF PUBLIC HEALTH AND EDUCATION—

Recommendation to Presidents of Divisional Societies. Frank F. Jones, D.O., Macon, Ga. 106

FOOT SECTION—

Mechanical Disorders of the Foot. James A. Stinson, D.O., St. Petersburg, Fla. 106

Chopart's Joint. H. V. Halladay, D.O., Des Moines, Iowa 109

PHYSICAL THERAPY SECTION—

The Practical Laboratory Aspects of Thermogenics. R. C. Slater, D.O., Ottawa, Ill. 110

CURRENT OSTEOPATHIC LITERATURE 113

BOOK NOTICES 114

NATIONAL BOARD OF EXAMINERS FOR OSTEOPATHIC PHYSICIANS AND SURGEONS—

Examinations Scheduled in Parts I and II. Asa Willard, D.O., Missoula, Mont. 114

STATE BOARDS 114

CONVENTIONS AND MEETINGS 115

OSTEOPATHIC MEMBERS OF EXAMINING BOARDS 120

SUBJECT INDEX

Agranulocytic Angina, [Chandler] 85*
and sulfanilamide, [Duffell and Hulburt] 101-E

Allen, Arthur E.:
To advance osteopathy 102-E

Amidopyrin: See Pyramidon

Ankle joint mechanics:
[Stinson] 106-FS
[Halladay] 109-O

Appendicitis, [Collins] 91*
acute, [Laughlin] 113-COL

Arthritis, laboratory aspects in diagnosis and treatment, [Slater] 110-PTS

Avitaminosis from use of mineral oil, [Chandler] 85*

Basicranium, symposium on the plastic, (I), [Naylor] 94*;104-E

Becker, Arthur D.:
Osteopathic treatment of the common cold 97*

Blood Counts, scientific interpretation of, [Nossaman] 113-COL
in thermogenics, [Slater] 110-PTS

Book Notices:

Why Be Tired. Daniel W. Josselyn..114-BN

The Management of Obstetric Difficulties. Paul Titus 114-BN

Synopsis of Clinical Laboratory Methods. W. E. Bray 114-BN

Facts and Phagocytes. Burr Ferguson 114-BN

Legal Medicine and Toxicology. Thomas A. Gonzales, Morgan Vance, and Milton Helpern 114-BN

Calcium, [Chandler] 85*

Chandler, Louis C.:
The menace of new medical discoveries..85*

Chopart's joint, [Halladay] 109-O

Cinchophen, [Chandler] 85*

Club-Foot, mechanics of, [Stinson] 108-FS

Collins, Harry L.:
Appendicitis 91*

Common cold, osteopathic treatment of, [Becker] 97*

Convention, Chicago: local committee to continue functioning, [Hulburt] 104-E

Convention, Cincinnati:
plan now to attend 100
local committee 100

Conventions and meetings:
announcements 115
official and affiliated organizations 115
special and specialty groups 120

Coryza, osteopathic treatment of, [Becker] 97*

Cranial vertebrae: See Basicranium

Dinitrophenol, the menace of, [Chandler] 85*
and sulfanilamide [Duffell and Hulburt] 101-E

Drugs, the menace of new, [Chandler] 85*

Dues raised (A challenge indeed) [Hulburt] 103-E

Duffell, R. E.:
The sulfanilamide fiasco 101-E
Current osteopathic literature 113-COL

Emetine, [Chandler] 85*

Ergotamine tartrate, [Chandler] 85*

Examining boards, osteopathic members of 120

Fever treatment, laboratory aspects in, [Slater]] 110-PTS

Foot, mechanical disorders of, [Stinson] 106-FS
Chopart's joint, [Halladay] 109-O
metatarsal disease of Köhler, [Lloyd] 113-COL

Gleason, B. L., case of 105-LL

Gordon, F. A.:
Membership status and honor roll 105

Halladay, H. V.:
Chopart's joint 109-O

Hemolytic streptococcic throat infection. [Vorhees] 88*

Hulburt, Ray G.:
Sulfanilamide fiasco 101-E
A challenge indeed (raise in dues) 103-E
Not to be wasted (Chicago convention committee) 104-E
Cranial vertebrae 104-E
Opportunity—synonym: duty 105-PPW

Jones, F. F.:
Recommendation to presidents of divisional societies 106-Pu.A

Kidney damage from certain drugs, [Chandler] 85*

Köhler's disease, [Lloyd] 113-COL

Laboratory:
aspects of thermogenics, [Slater] 110-PTS
scientific interpretation of blood counts. [Nossaman] 113-COL

Legal and legislative:
Kansas—B. L. Gleason case 105-LL

Medical discoveries, the menace of new, [Chandler] 85*

Membership effort, committee on:
Membership status and honor roll [Gordon] 105

Metatarsal disease of Köhler, [Lloyd] 113-COL

National board of examiners for osteopathic physicians and surgeons:
examinations in parts I and II scheduled, [Willard] 114-NBE

Naylor, Charles L.:
The basicranium 94*

Osteochondritis of metatarsals, [Lloyd] 113-COL

Osteopathy, to advance, [Allen] 102-E

Pharyngitis, streptococcic sore throat, [Vorhees] 88*

Physical Therapy Section 110-PTS

Public affairs, department of 105-Pu.A

Public health and education, bureau of:
recommendation to presidents of divisional societies, [Jones] 106-Pu.A

Public and professional welfare, committee on: opportunity—synonym: duty [Hulburt] 105-PPW

Pyramidon, the menace of, [Chandler] 85*
and sulfanilamide [Duffell and Hulburt] 101-E

Slater, R. C.:
The practical laboratory aspects of thermogenics 110-PTS

State Boards: D. C., Fla., Iowa, Me., Neb. 114-SB
Okla. 115-SB
osteopathic members of 121

Stinson, James A.:
Mechanical disorders of the foot 106-FS

Streptococcic sore throat, [Vorhees] 88*
sulfanilamide and, [Hulburt and Duffell] 101-E

Sulfanilamide fiasco, [Hulburt and Duffell] 101-E

Thermogenics, practical laboratory aspects of [Slater] 110-PTS

Throat, streptococcic sore, [Vorhees] 88*

Vertebrae, cranial: See Basicranium

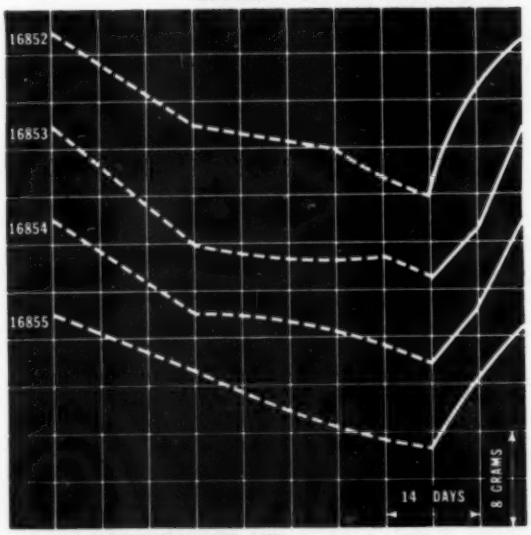
Vorhees, Ralph D.:
Hemolytic streptococcic throat infection..88*

Willard, Asa:
Examinations of N.B.E. scheduled..114-NBE

X-Ray in Köhler's disease, [Lloyd] 113-COL

Published monthly by the American Osteopathic Association. Office of Publication, 1140 Lake St., Oak Park, Ill. Address all communications to the Main Office at 540 North Michigan Ave., Chicago, Ill., Eastern Advertising Office, Lawrence B. Williams, Manager, 11 West 42nd St., New York, N. Y., telephone: Pennsylvania 6-1949. Subscription, $5 a year. Acceptance for mailing at special rate of postage provided for in Section 1103, Act of October 3, 1917; authorized August 31, 1922. Entered at the Oak Park, Illinois, post office as second class matter, April 1, 1926, under the Act of March 3, 1879.

PATIENTS NEED IRON?



• "All animals were given weighed quantities of anemia-producing diet. Hemoglobin determinations (using Dare and Newcomer methods) made on 1st, 16th, 37th, 45th and 51st days. On 51st day hemoglobin of each animal showed less than one-half of normal. Supplementary feeding of 2.84 grams of Cocomalt started. Hemoglobin determinations made on 7th and 14th day of this period. Those on 14th day showed hemoglobin content of blood of all animals had returned to normal."

Here's an easy way for them to "Drink" it

LEADING AUTHORITIES agree that since each ounce of Cocomalt (enough for one serving) is fortified with 5 milligrams of effective Iron, three glasses of Cocomalt and milk supply the daily optimum of Iron for the normal patient. And, the iron in Cocomalt, has been biologically tested for assimilation.

Patients need extra calcium and phosphorus? Cocomalt supplies these food-minerals, too...since each ounce-serving of this *protective food drink* has been fortified so as to furnish .15 gram of Calcium, .16 gram of Phosphorus...and helping in their utilization there is also present in each ounce-serving of Cocomalt 81 U.S.P. Units of Vitamin D, derived from natural oils and biologically tested for potency.

It is for these cogent reasons that more and more physicians are prescribing Cocomalt. It may be taken Hot or Cold and few patients fail to like its creamy, delicious flavor.

Inexpensive, Cocomalt can be bought at grocery and drug stores everywhere in ½-lb., 1-lb. and the economical 5-lb. hospital size purity-sealed cans.

Cocomalt is the registered trade-mark of R. B. Davis Co., Hoboken, N. J.

FREE TO OSTEOPATHIC PHYSICIANS

R. B. DAVIS CO., Dept. L-11, Hoboken, N.J.

Please send me a trial sample of Cocomalt without charge.

*Doctor*_____

*Street and Number*_____

*City*_____ *State*_____

A single teaspoonful

of

CAL-BIS-MA

The first teaspoonful or the last—there is no difference in the composition of CAL-BIS-MA. In every teaspoonful there is just the right proportion of sodium bicarbonate and magnesium carbonate for quick gastric neutralization; every single teaspoonful has the proper amount of calcium carbonate and bismuth salts to prolong the neutralization. Ingredients of matched density, incorporated in a colloid base, assure a uniform product throughout. ¶ But Cal-Bis-Ma goes further. With colloidal kaolin it obviates gaseous distention; with bismuth and colloidal kaolin it soothes and protects the irritated gastric mucous membrane and prevents secondary acid rise. ¶ Descriptive literature and trial supply of Cal-Bis-Ma gladly sent on request.

CAL-BIS-MA

Supplied as powder in tins containing 1¾, 4 and 16 ounces; as tablets in boxes of 30 and bottles of 110.

WILLIAM R. WARNER & COMPANY, INC.
113 West 18th Street New York City

❖ Your treatment of a chest cold includes freeing the vertebral ends of the ribs to increase circulation and innervations to the pleura and chest cavity - -

CONTINUE the Benefits of Increased Circulation With the Help of PENETRO

Penetro has a base of highly refined mutton suet plus 113% to 227% more medication than any other nationally sold cold salve. Thus Penetro, because of its stronger nature, tends to produce and prolong active hyperemia over the area applied, and the heat is not radiated because of its animal fat base. Penetro is stainless and snow-white.

R. E. Travers, D. O.
c/o St. Joseph Laboratories
Memphis, Tennessee

Please have my druggist deliver to me without charge samples of Penetro, the salve with a base of old-fashioned mutton suet, for clinical tests.

Druggist.....

Street Address.....

City.....*State*.....

Doctor.....

Street Address.....

City.....*State*.....

THE SALVE WITH A BASE OF OLD FASHIONED MUTTON SUET

PENETRO

IN ACUTE RESPIRATORY INFECTIONS

help to restore the natural immunity with

PRUNOIDS

When your patient's functions are decreased this mild laxative brings about a daily, soft and almost natural action.

It encourages satisfactory elimination without depletion of the so important body fluids. PRUNOIDS are palatable and effective, non-irritating and non-griping.

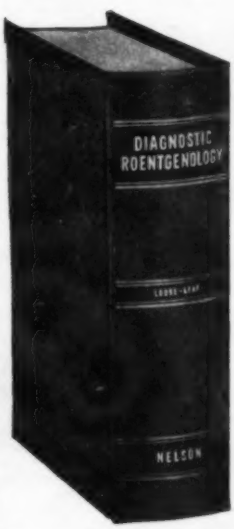
Od Peacock Sultan Co.

Pharmaceutical Chemists

4500 Parkview St. Louis, Mo.

Makers of
SANMETTO—PEACOCK'S BROMIDES—
CACTINA PILLETS—CHIONIA—
PRUNOIDS—SENG

Announcing a New Publication



Diagnostic Roentgenology

Ross Golden, M.D., *Editor*
Professor of Radiology, Columbia University; Director of Radiology, Presbyterian Hospital, New York

14 Eminent Contributors

The most comprehensive and complete volume ever published on the subject.

A Sound and Practical Presentation of the Normal and Pathologic in Roentgenology.

This volume will prove most helpful to the radiologist, pathologist, surgeon, and general practitioner as a guide in preventing the errors and pitfalls that so frequently occur in roentgen-ray interpretations. Fourteen Chapters.

"MANY VOLUMES IN ONE" 880 pages, 964 original illustrations.

Diagnostic Roentgenology is an indispensable reference work, as you can check your roentgen films with it and make doubly sure of a diagnosis.

Thomas Nelson & Sons, 381 Fourth Ave., N. Y. C.
Please send me detailed prospectus of Golden's Diagnostic Roentgenology.

Name.....Address.....

City.....State.....

A.O.A. 11-37

Before any Anaesthesia Safeguard with BiSoDoL

Regardless of the type of anaesthesia, the pre-operative administration of alkalis is an effective preventative to post-operative acidosis and nausea.

•

"Acidosis is one of the most common pathological states—indeed more common than fever."

•

BiSoDoL is a palatable preparation of balanced alkalis, available either in powder or tablet form.

•

Write for samples and literature.

The BiSoDoL Company
New Haven,
Connecticut

ALKALINIZATION

by the safe, physiological process

WHERE buffered alkalinization is desirable—as during sulfanilamide administration, in the treatment of colds, influenza and other seasonal respiratory affections —Kalak offers these clinical advantages:

(1) It presents a balanced combination of bicarbonates in solution. (2) It contains the mineral substances normal to the blood (and no other).

Kalak's high buffering value helps to maintain the urinary pH of 7.4 which has been found so desirable in sulfanilamide therapy.

KALAK

is synthetically prepared — is hypertonic, uniform in composition, definite in alkali potency.

KALAK WATER COMPANY OF NEW YORK, INC., 6 CHURCH STREET, NEW YORK CITY

A Proven Adjunct to Osteopathy!

For Every Need

Countless osteopaths have proven the clinical value of low voltage currents in osteopathic practice. Galvanism and the sinusoidal currents in varied galvanic combinations meet every need.

Just visualize the aid of a choice selection of such currents in many affections of muscles and joints—both traumatic and non-traumatic. Then, their benefit in diagnosis and prognosis of impairments of the motor tract of the central and peripheral nervous system. Recall reported clinical results in iontophoresis for treating arthritis and vasospastic conditions; the happy conclusions of many in nasal allergies, otitis media, hemorrhoids, cervical affections. And, muscular stimulation in atrophic conditions and testing for reaction of degeneration. You'll still have an only partial picture of what the McIntosh No. 1510 Modernistic Sinustat will mean to your practice.

No. 1510

At Low Cost

The dignified modernity of the McIntosh Modernistic Sinustat signifies as well the benefits of eight carefully chosen currents which it affords. You get practically the same physiological effect facilities that were offered in the famous No. 1158 Polysine Generator at a much higher cost. Then, there's valve-tube rectification, noiseless operation, long-life engineering, rare beauty of appearance, and a host of other features which combine to your advantage.

Yet, the price is low—far less than you'd expect to pay for what you get—much lower than any comparable unit on the market. Let us give you further facts and explain how easily you may own this equipment.

McINTOSH
ELECTRICAL CORPORATION
GEO. R. HOGAN, PRESIDENT

235 No. California Ave. Chicago, Illinois

Gentlemen: A.O.A.-11-37

Tell me more about the Modernistic Sinustat and how easily I may pay for it by deferred payments.

D.O.

CANNED FOODS IN THE CONTROL OF LATENT AVITAMINOSIS C

● The identification of cevitamic acid (l-ascorbic acid) as vitamin C served as a direct stimulus for the intensive study of the multiple problems involved in determining the human requirement for this factor. As a result of much extensive work, there have been developed three methods for estimating the intake or store of vitamin C in the body.

The "retention or saturation" test is carried out by administering a massive dose of vitamin C and determining the amount excreted in the urine in a given time (1).

As a second method, the daily excretion of vitamin C in the urine is considered indicative of adequacy of the intake (2).

A third method is the determination of the amount of vitamin C in the blood plasma or serum (3).

These tests have been combined in balance studies and may serve as valuable checks in the diagnosis of latent scurvy, when used separately or in conjunction with the less specific capillary resistance test (4).

Evidence is accumulating from the application of these tests which confirms the older view that acute cases of scurvy are rare in this country. However, this evidence does indicate rather wide occurrence of the subclinical forms of scurvy (5).

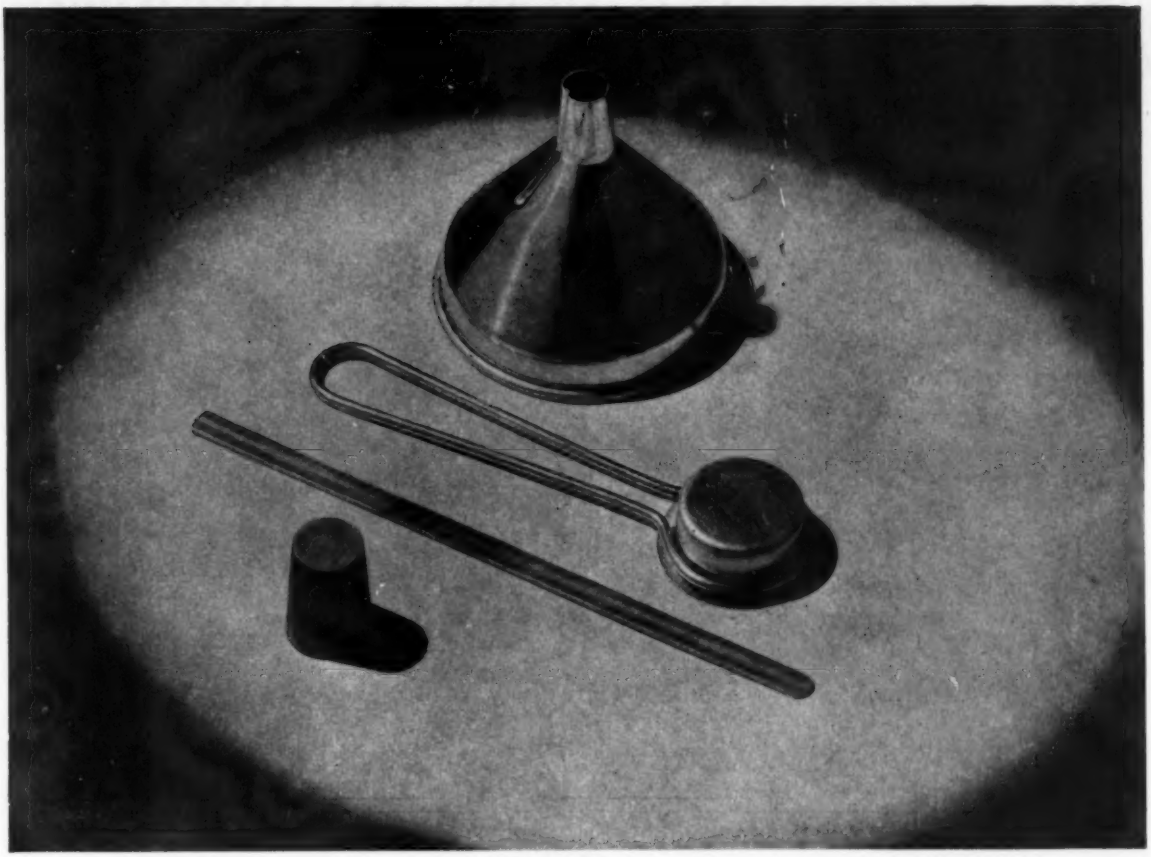
Correction of this condition is largely a matter of modification of the diet to include more liberal quantities of the fruits and vegetables which are known to be good sources of vitamin C. Recent reports indicate that vitamin C in such fruits and vegetables is afforded a good degree of protection during modern canning operations (6).

Since they are available at all seasons on practically every American market, these canned foods afford a valuable and economical means of controlling latent avitaminosis C.

AMERICAN CAN COMPANY
230 Park Avenue, New York City

(1) 1935. The Lancet 228-I, 71
(2) 1936. Am. J. Med. Sci., 191, 319
(3) 1935. Proc. Soc. Exper. Biol. & Med., 32, 1930
(4) 1933. J. Lab. & Clin. Med. 18, 484
(5) 1937. The Avitaminoses Eddy and Dahldorff William and Wilkins Baltimore
(6) 1936. J. Nutr. 12, 405
1936. Ibid. 11,383
1935. Am. J. Pub. Health 25, 1340

This is the thirtieth in a series of monthly articles, which will summarize, for your convenience, the conclusions about canned foods which authorities in nutritional research have reached. We want to make this series valuable to you, and so we ask your help. Will you tell us on a post card addressed to the American Can Company, New York, N. Y., what phases of canned foods knowledge are of greatest interest to you? Your suggestions will determine the subject matter of future articles.



Now... The New S. M. A. Mixing Set Provides a Handle for the S. M. A. Measuring Cup

A handle for the S. M. A. measuring cup is included in the new S. M. A. Mixing Set pictured above. This handle provides a more convenient method of holding the S. M. A. measuring cup (a measuring cup is placed in every sample and trade package of S. M. A. powder, as always).

It is essential that the S. M. A. powder be packed tightly into the measuring cup in making feedings. A blade for packing the powder is included in this new S. M. A. Mixing Set. A funnel and rubber bottle stopper are additional conveniences.

These utensils now enable the mother to prepare feedings of S. M. A. more quickly, easily and simply than ever—and at the same time help the mother prepare feedings exactly and accurately according to your directions.

Physicians are invited to send the coupon for a new S. M. A. Mixing Set.

S. M. A. CORPORATION - - CLEVELAND, OHIO

Gentlemen:

Without obligation please send me an S. M. A. Mixing Set.

DR. _____
(PLEASE PRINT)

STREET _____

CITY_____ STATE_____ 3-117

THE MADDENING FURY OF PRURITUS

Driven to distraction by the torment of pruritus, your patient clamors for relief. Calmitol stops itching; its action is prompt and prolonged. The contained medications inhibit the sensory nerve endings from transmitting the offending impulses, and mild antisepsis and induced hyperemia lessen further insult and promote repair. Regardless of etiology, pruritus yields, quickly and dependably.

THOS. LEEMING & CO., INC., 101 W. 31st STREET, NEW YORK

Calmitol LIQUID *and* OINTMENT

THE DEPENDABLE ANTI-PRURITIC

SINCE THE TIME OF **HIPPOCRATES**

"Relieve the pain by treating the cause"

LUPEX

CAPSULES OF HUMULUS LUPULUS COMPOUND

admirably follow this principle in the treatment of DYSMENORRHEA, Metrorrhagia and other painful uterine conditions.

Liberal samples and literature on request

THE LUPEX COMPANY, INC., GARDEN CITY, N. Y.

HEMATINIC PLASTULES FOR ANEMIA

Small dosage, easy assimilation, and excellent results are all characteristics of Hematinic Plastules. The suggested daily dose of only three Hematinic Plastules Plain is usually sufficient to induce an early response in cases of secondary anemia. Hematinic Plastules obviate the necessity of massive iron feedings, encourage patient cooperation and provide an economical form of iron medication . . . . Doctors are invited to write for samples and literature on Hematinic Plastules Plain and Hematinic Plastules with Liver Extract.

THE BOVININE COMPANY • CHICAGO, ILLINOIS

Announcing . . .

The NEW

Burdick PORTABLE

Short Wave Unit

THE Burdick Portable is designed for the doctor who desires a really efficient yet inexpensive portable short wave diathermy unit for condenser pad and cuff applications and electro-surgery.

The Portable has the power of many larger units, yet it may be conveniently carried to the home for treatment.

325 watt output. 15 meter wave-length.

THE BURDICK CORPORATION
Milton, Wisconsin

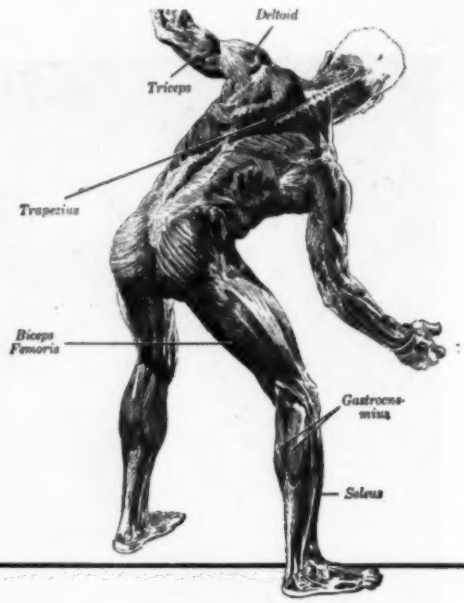
The Burdick Corporation,
Milton, Wisconsin Dept. AOA1137

Gentlemen: Please send complete information on the new Burdick Portable.

Dr. .....

Address .....

City ..... State.....



To Relieve Muscular Congestion Suggest

ABSORBINE Jr.

When patients complain of sore, aching muscles . . . or when immediate treatment is impossible, suggest a rubdown with Absorbine Jr. at home.

An Absorbine Jr. rub relieves muscular fatigue and congestion, for it causes the blood to circulate more freely . . . and collected toxic waste products are washed away. As congestion is relieved painful soreness and stiffness begin to disappear.

Recommend Absorbine Jr., too, for home treatment of bruises, bumps, sprains, wrenches.

Write for a complimentary professional-size bottle of Absorbine Jr. Then you can see for yourself how promptly Absorbine Jr. acts!

ABSORBINE Jr.
W. F. YOUNG, INC.
399 Lyman Street, Springfield, Mass.

The

NON-ALKALINE ANTACID...

LUDOZAN

For Peptic Ulcer Therapy

"The use of antacids in peptic ulcer is generally accepted not only as a means of neutralizing acidity but also to prevent the irritation and digestion of tissues. It is also essential to continue at least temporarily some form of antacid therapy of those patients who have been operated on."[1]

Ludozan* accomplishes both these purposes in peptic ulcer therapy. It is a combination of aluminum and sodium silicates. Excessive stomach acid is quickly converted to insoluble silicic acid, a gel which forms a protective film-like coating over the gastric mucosa. Since it is not an alkali, Ludozan does not induce systemic alkalosis, nor stimulate hypersecretion of acid. Normal digestive processes may continue undisturbed.

[1] Friedenwald and Morrison, J. A. M. A. 108:879, 1937

Ludozan with Belladonna (containing 0.5% belladonna extract) is suggested for the treatment of especially stubborn cases.

Ludozan is supplied in uniform-dose, convenient envelopes—21 to a can. Samples and literature gladly sent upon request.

* *Reg. U. S. Pat. Off.*

Copyright 1937 Schering Corporation

SCHERING CORPORATION, Bloomfield, N. J.

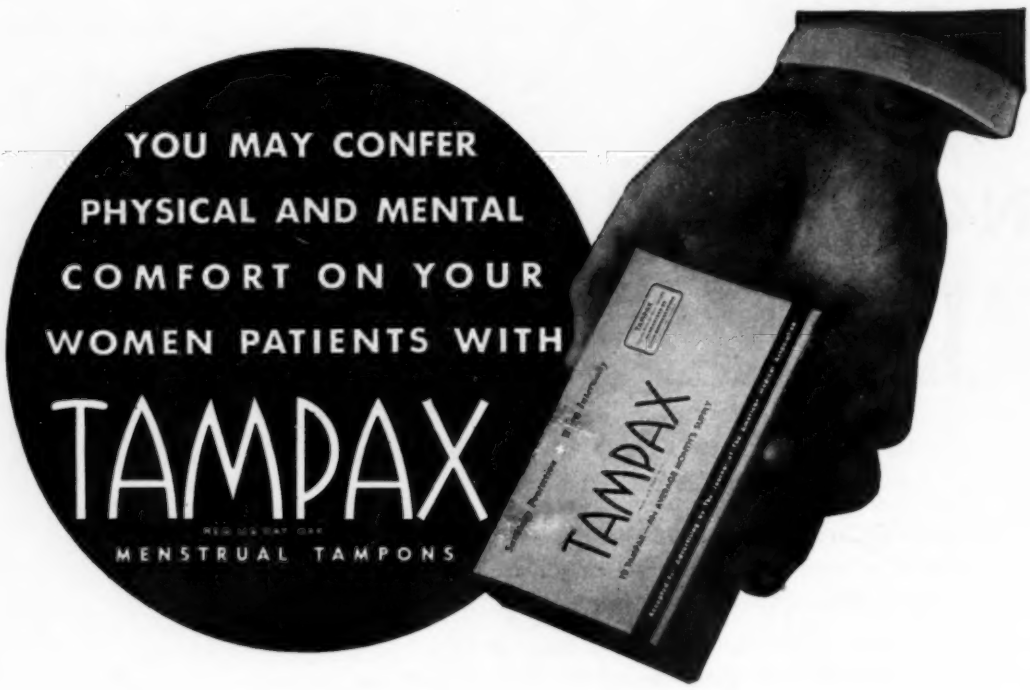
SCHERING CORPORATION
BLOOMFIELD, NEW JERSEY

Please send me sample and literature on Ludozan.

Name .....

Address .....

City ..... State JAO-11



Made of extra-absorptive, long-fibre surgical cotton, so stitched that they cannot disintegrate. Each TAMPAX has an individual applicator and the whole is wrapped in cellophane. Hygienic, invisible, comfortable. No pins, no pads, no belts, no odor.

The use of TAMPAX is the ideal, the *civilized* way to care for the menstrual flow—a soft, absorptive vaginal tampon. Easy to insert and retain, easy to remove and dispose of. A month's supply in a purse size package.

A full-size package will be sent to Physicians and Nurses on request.

Address Dept. 0-4

TAMPAX Incorporated

NEW BRUNSWICK, N. J.

MOBILIZING
the defensive forces
in COLDS INFLUENZA NEURALGIA, etc.

IN the early stages of influenza and severe colds, clinical experience has shown that the defensive forces of the body can be more quickly marshaled by the conjoint injection of nonspecific proteins and lipoids.

Omnadin, which represents such a combination, has a more complete immunizing capacity than nonspecific proteins alone. Furthermore, the intramuscular injection is painless and is not followed by untoward reactions.

Under the administration of Omnadin, influenza and colds have been found to run a milder course, with a reduced incidence of complications.

OMNADIN

Reg. U. S. Pat. Off. & Canada

Brand of PROLIPIN

Shockless Lipo-Protein Therapy

WINTHROP CHEMICAL COMPANY, INC.

Pharmaceuticals of merit for the physician

NEW YORK, N. Y. WINDSOR, ONT.

Factories: Rensselaer, N. Y. - Windsor, Ont.

Omnadin is supplied in ampules of 2 cc., boxes of 5 and 100.

441 M

★ After your treatment of a head cold to increase drainage in the nose and frontal sinus region and to reduce swelling of nasal mucosa - -

WE SUGGEST PENETRO NOSE DROPS TO HELP CONTINUE NASAL DRAINAGE

Containing ephedrine and other medication in perfectly balanced form, Penetro Nose Drops tend to reduce the swelling of the turbinate bodies and to facilitate drainage and ventilation.

R. E. Travers, D. O.
c/o St. Joseph Laboratories
Memphis, Tennessee

Please have my druggist deliver to me without charge samples of Penetro Nose Drops, for clinical tests.

Druggist.....

Street Address.....

City..... *State*.....

Doctor.....

Street Address.....

City..... *State*.....

PENETRO NOSE DROPS
CONTAIN EPHEDRINE

DROPPER? Atomizer?

These illustrations based on X-ray research.

Make your medication work!

● To prescribe a medication for treating the nose or throat, is not enough. That medication can't bring about the results you and your patient desire, if it never reaches the affected area.

● You can make sure that your medication will go where it ought to, by prescribing an atomizer for its application.

● As illustrated here, a solution sprayed covers all the surfaces of the nasal mucosa, including the superior turbinate area. On the other hand, a dropper-applied solution merely flows over the floor of the nasal cavity, unless the patient correctly follows a complicated bending technique. In like proportion, a solution sprayed in the throat goes farther than the same solution gargled.

● By specifying "Use in an atomizer," you know that any medication the treatment demands will be applied effectively.

DeVilbiss

The DeVilbiss Company, Toledo, Ohio, headquarters for atomizers and vaporizers for professional and home use

MELLIN'S FOOD

Formulas for Infant Feeding

Infant feeding mixtures, arranged on formula cards now being presented to physicians by Mellin's Food Company, supply for each pound of body weight food constituents and liquid in the following approximate amounts:

Proteins	**2.0 grams**	(entire period)
Fat	**1.8 grams**	(entire period)
Carbohydrates	**6.0 grams**	(early infancy)
	4.7 grams	(later months)
Minerals	**0.5 grams**	(entire period)
Fluid Volume	**3 ounces**	(first month)
	2½ ounces	(2nd and 3rd months)
	2 ounces	(later months)

52 calories for each pound of body weight are furnished during the first month, gradually decreasing to 41 calories at the twelfth month.

It is well calculated that the suggested mixtures furnish food constituents in quantities to satisfy the nutritive requirements during the period of bottle feeding with a supply of liquid to maintain the water balance.

In view of this carefully studied arrangement there is much to justify the physician's acceptance of these formulas as a most useful guide in the feeding of infants who are not able to have breast milk.

All mixtures are easily prepared and are readily digested. Bowel movements are usually regular with stools of good consistency. Constipation is rare.

Formulas for preparing these mixtures from fresh milk and from evaporated milk are arranged on a celluloid card which will be sent to physicians upon request. Samples of Mellin's Food will also be sent if desired.

Mellin's Food Company, Boston, Mass. ○ *MELLIN'S FOOD: Produced by an infusion of Wheat Flour, Wheat Bran and Malted Barley admixed with Potassium Bicarbonate—consisting essentially of Maltose, Dextrins, Proteins and Mineral Salts.*

THE BEST TEST IS THE . . .
. . . CLINICAL RESPONSE

Here is an opportunity to prove that endotoxic infections respond rapidly when treated with

E D W E N I L

the polyvalent, protein-free, antibacterial agent. The salient points are these:

(1) The promptness of the response; the defenses are aroused immediately, resulting in a "shower of antibodies."

(2) There are no detrimental "reactions" nor unpleasant anaphylactic phenomena.

Edwenil is indicated in all endotoxic bacterial invasions—**respiratory infections, such as pneumonia, influenza, and colds,** septic conditions, such as abscesses, boils, and carbuncles; acute specific fevers, such as whooping cough and measles.

SPICER and COMPANY
GLENDALE, CALIF.
P. O. Box 700

NEW YORK, N. Y.
9 Park Place

CHICAGO, ILL.
911 Burnham Bldg.

DALLAS, TEX.
834 Allen Bldg.

PORTLAND, ORE.
316 Pittock Block

SPICER and COMPANY, Box 700 Glendale, Calif.

I have never used Edwenil. Please send, without cost or obligation, sufficient Edwenil to treat one of the infections mentioned above.

Dr. _____
(Print it, please)

Street _____

City _____ State _____

(6th of a SERIES)

Salines

in Familial Constipation

Weak, feeble-acting colons are frequently encountered among members of the same family. Salines are decidedly helpful in familial constipation, and safe to administer even over a long period.

Sal Hepatica

simulates the properties of famous mineral spring waters. The intestines are gently, yet thoroughly, cleared of harmful waste by heightened osmosis and increased peristalsis. Natural mineral salts aid in conservation of body alkalines, thus helping to build resistance and to combat the acidity that so often accompanies constipation.

Sal Hepatica also stimulates an increased rate of bile flow from the liver into the gall bladder and thence, into the duodenum...Send for samples of palatable, effervescent Sal Hepatica; also literature.

Sal Hepatica Flushes the Intestinal Tract and Aids Nature to Combat Acidity

BRISTOL-MYERS CO.
19-HHWEST 50th STREET
NEW YORK, N. Y.

DESIGNED EXPRESSLY FOR DOCTORS

THE Adams Special Centrifuge has been expressly developed for the physician's laboratory. Into it has been incorporated every feature of large, expensive models . . . yet it has been made compact, extremely economical to operate and at a price little more than a hand operated model.

COMPLETE
$33.50

WITHOUT GUARD BOWL
$25.00

- General Electric Co. Universal Fan cooled Motor, AC or DC, 110 volt.
- Built-in rheostat. Stops, starts, and all speeds on one control.
- Quiet, yet runs at 2000 r.p.m.
- Compact. Takes up a minimum of space.
- Sturdy and durable. Simply but efficiently constructed.
- Wide base (6½") for stability. Can be fastened to laboratory table if desired.
- Suction cups on base prevent "creeping" even when operated at top speed on glass top table.
- Properly ventilated; therefore will not burn out.
- Modern construction and modern appearance, made of polished cast aluminum.
- Very economical to operate. Draws only .75 watts—Amp. 3.
- Easy to keep clean. Cannot stain, peel or chip.
- 10 ft. Fire Underwriters' cord and plug.
- Standard tube and tube holders. Replaceable anywhere.
- Protective guard bowl increases speed and MAKES FOR GREATER SAFETY.

Your dealer can supply you

CLAY-ADAMS CO. INC
25 EAST 26TH STREET, NEW YORK

Trademark Registered **STORM** Trademark Registered

Binder and Abdominal Supporter

(Picture Shows Type N)

Gives perfect uplift. Light, comfortable, durable. Made of cotton, linen or silk. Washable as underwear. "Type A" has thigh straps; "Type N," garters. No two are alike; every one is made for the patient who is to wear it.

For general support in Pregnancy, Visceroptosis, Obesity, etc. For special support in Hernia, Sacro-Iliac needs, etc., and for Post Operative support of incisions.

Ask for Literature

KATHERINE L. STORM, M.D.
Originator, Owner and Maker
1701 Diamond Street Philadelphia

Highly Recommended by Users —

BANTÉ OIL

A Simple Treatment for External Use Only!

FOR SUCH INDICATIONS AS —

Arthritis	Strained Muscles
Rheumatism	Blistered Feet
Lumbago	Burns
Varicose Veins	Insomnia

SPECIAL OFFER TO THE PROFESSION

In view of the many letters expressing strong approval of Banté Oil's use for the above indications by members of the profession, we are prompted to make this special introductory offer. For only $2.00 we will send you a full 8-oz. regular $3.00 bottle of Banté Oil with directions for use and our attractive proposition to become a Banté Oil representative.

MAIL THIS COUPON TODAY!

BAYDILOR, INC.
3206 SUNSET BLVD.
LOS ANGELES, CALIF.

$2.00 is enclosed for a bottle of Banté Oil and special proposition to doctors.

NAME_____
ADDRESS_____
CITY_____
STATE_____

Dept. I

New Evidence how
OVALTINE
Improves Sleep

THREE years ago, in a leading University, an important investigation was undertaken. The purpose of this study was to determine the effect of various experimental procedures on sleep.

Because of its widespread use as an aid to sleep, Ovaltine was included in the study as one of the test procedures. This was done at the recommendation of the investigators.

This 3-year test comprised 6,800 sleep nights, using normal subjects of mixed ages. The investigation has now been completed and the full report has been published in the scientific literature.

According to the results of this study, Ovaltine improved sleep in two important ways:—*It reduced significantly the number of movements made during the night and it increased the percentage of feeling well-rested on awakening.*

This is only additional evidence, from a new source, of facts which have long been known about Ovaltine. Further, Ovaltine was the only experimental procedure tested, which produced these two favorable results. Milk or water used alone had no such effect. Even the barbiturates which were included in the test did not give this result.

The fact that Ovaltine benefited sleep when taken hot or cold, with milk or with water, clearly indicates that Ovaltine *itself* gave the improvement. These findings give added confirmation, by means of a new and scientific method, of the long-established use of Ovaltine as an aid to sleep.

If you have occasion to recommend sleep aids to patients, where drugs are not indicated, why not advise Ovaltine? It is safe and can benefit your patients in many ways.

THE WORLD'S NIGHTCAP

The Journal of the American Osteopathic Association

PUBLISHED MONTHLY BY THE AMERICAN OSTEOPATHIC ASSOCIATION

Vol. 37, No. 3 | 540 N. Michigan Ave., Chicago, Ill. | November, 1937

COPYRIGHT, 1937, BY AMERICAN OSTEOPATHIC ASSOCIATION

The Menace of New Medical Discoveries*

LOUIS C. CHANDLER, M.A., D.O.
Los Angeles

Forty-seven years ago Solomon Solis-Cohen, M.D., author of the masterful work "Pharmacotherapeutics," at his clinics at the Philadelphia Hospital during the influenza pandemic of 1890, paraphrased the Scripture with the words "Influenza slays its thousands, but antipyrin its tens of thousands." No more dramatic statement has ever been made of the dangers of the too rapid and thoughtless adoption of new medical remedies. That his words were not taken to heart is graphically shown by the fact that thirty-eight years later this same physician felt called upon to state, "In 1918-1919, aspirin and acetphenetidin played the same harmful role as was played by antipyrin and antifebrin a generation earlier. The lesson had not yet been sufficiently impressed on the younger generation of physicians."[1]

Quinine, formerly used in the treatment of febrile disorders, was becoming difficult to secure and excessively expensive in 1890. Medicine turned to the newly born science of synthetic chemistry. Antipyrin was the first thriving child spawned by this science which now threatens to assume the form of a Frankenstein. Since that date scores of high-powered chemical agents have been turned over for use to the medical profession by chemists and chemical manufacturers who possess active commercial interests in medical products but no training in the practice of the healing art.

It was not only chemists who invaded the field of medical activities. Physiologists, pathologists, bacteriologists, all largely men employed on the fringe, rather than in the active practice, of medicine, began to present their findings and observations. Laboratory science captured the field and the clinical physician was forced into retirement so far as guiding medical progress was concerned. The teachings of chemists and other laboratorians came to be accepted in preference to the observations of the physician by the bedside. An attitude was built up of expectancy for securing overnight results which are not consistent with the slow moving processes of life. Laboratory methods of study acquainted the medical student with the possibility of drastic applications of chemical agents without causing the immediate death of experimental animals and the tendency to use medical agents in more drastic manner, especially by intravenous injection, became popular. Then came the high-powered methods of the modern advertising world adroitly to persuade the practicing physician to adopt the newer chemicals and methods of administration. The result is that on the basis of animal experimental studies and very brief clinical trial, new drugs and even new surgical procedures deluge the profession with such rapidity that only confusion regarding their true value can reign. Robert T. Frank[2] says, "The indecent haste with which certain clinicians inject into their docile patients the latest hormone fraction is revolting. The conclusions they draw are equally hasty and unreliable. Next month or next year they will be off on another tangent with undiminished enthusiasm and optimism."

Not only did the new chemical and laboratory approach to medical practice foist new and high-powered drugs on the profession, but also much of its activity, for a time, was spent in nihilistic criticism of older and simpler methods. For example, in cod-liver oil, the chemist saw only so much fat and the impression was built up for a time that its values were no greater than so much additional butter. The discovery of the vitamins beginning about 1911, revealed the error of this attitude. Forthwith the laboratorians again stepped into the field, and commenced the endeavor to isolate vitamins for use in a more high-powered way, so that today we have facing us the problems that arise from the injudicious use of massive doses of vitamin products. The tendency to regard as infallible the results of laboratory investigation became a fetish. I recall one report[3a] from the Department of Pharmacology of Western Reserve University, claiming the ineffectiveness of alcresta ipecac tablets on the basis of laboratory experiments, which, on critical study, were found to omit the one procedure which could have released the chemically active component of the preparation. Careful study of the literature will reveal repeated instances where the laboratory attempt to imitate natural processes falls so far short of doing so that the results are valueless.

It must not be considered, however, that this new approach to the problems of medicine has been entirely without benefit. A better understanding of

*Delivered before the General Sessions at the Forty-First Annual Convention of the American Osteopathic Association, The Hotel Stevens, Chicago, July 6, 1937.

disease processes has been evolved, more accurate diagnosis has been made possible, a much fuller understanding of nutrition has developed, certain of the new agencies in treatment has outstanding value. It is only the gullible and unthinking acceptance of the laboratorians' contributions and the advertising experts' claims and the publicity seeking clinicians' statements that lead into trouble.

Furthermore, it must be emphasized that much of the harmfulness of new methods of treatment is not inherent in them, but is due to their injudicious application. Many are innocuous in large numbers of cases, but possess a treacherous tendency to produce dramatic ill effects in others.

With this brief survey of the problem, let us turn to the consideration of a few outstanding illustrations of dangers in newer drugs and newer methods of their use.

The pain relieving and fever controlling agents furnish some excellent examples: First, let us consider the question of cinchophen. This agent and its relatives, variously designated as atophan, phenylcinchoninic acid, tolysin, novatophan, etc., occur in the form of thirty-two distinct drugs and are present in some 500 advertised rheumatism remedies. Up to 1930, thirty cases of poisoning were reported. During 1933, 117 cases of poisoning were cited in medical literature and in 1936, 191 cases, 50 per cent of whom died. How many cases failed to find mention in medical literature can only be imagined. These remedies are widely used, and in large numbers of cases, of course, cause no recognized harm. Much argument consequently has ensued and many writers claim to have used these drugs in large series of cases with no liver damage or other detectable poisonous effect.

However, investigators in the Department of Medicine of the University of Chicago made a careful study of the problem. They[3] described the harmful effects and studied the possibility of selecting those cases which might be susceptible and the possibility of avoiding disastrous results. They cited the occurrence of a series of cases where liver atrophy and death suddenly developed a few weeks after cessation of the use of the drug, even though the drug was discontinued at the first symptoms of gastrointestinal disturbance. Such events often occurred even after small doses. Apparently an idiosyncrasy was present whose existence could not be anticipated in any way. The conclusion was, "There is no safe method for the administration of cinchophen." The conclusion of the Mayo Clinic was that cinchophen should never be used where there was a substitute, citing the fact that it is specifically needed only in gout, a distinctly rare condition at this time in this country.

Amidopyrin and its relationship to malignant neutropenia may be cited as another illustration of a dangerous pain relieving drug. The Council on Pharmacy and Chemistry of the American Medical Association reported a survey[4] of the situation with the conclusion that the drug was unquestionably capable of producing this serious reaction. It is pointed out that amidopyrin is derived from phenylhydrazin which is used in polycythemia vera to paralyze the red bone marrow. Experiments have proved that the drug causes granulopenia in dogs and rabbits. It is recited that of fourteen cases of agranulocytic angina (thirteen fatal) described by one writer, all of the patients had been taking amidopyrin. Experimentally, it has been found to produce a granulopenic state within 48 hours in an apparently normal person. It is again admitted that such a dramatic consequence probably occurs only in certain sensitive cases, but because there is no way of discovering which individuals are and are not sensitive, the drug is always potentially dangerous and its use, the Council recommends, should be abandoned. When a pain relieving agent is absolutely indicated, there are other drugs such as phenacetin, acetanilid, aspirin and the barbiturates which at least are far less dangerous even though not entirely harmless.

As an illustration of an agent which is intrinsically relatively safe yet is often used illogically and at times with a threat of danger, we may refer to calcium. Ordinarily this substance, especially when used orally, is entirely harmless, but when used intravenously, this is not the case. Sudden deaths have been reported recently from its intravenous injection in patients receiving digitalis because of its synergistic effect with this drug and the production of cardiac standstill.[5] In a person with a marked potassium deficiency, even in the absence of digitalis, profound disturbance of the regulation of circulation and respiration may cause death. These possibilities, as against their occurrence by oral administration, depend upon the extreme suddenness with which a high blood calcium can be produced by the intravenous route. On the other hand, if calcium is desired for its nutritional effect, the intravenous use is little less than stupid. The blood calcium is back to where it was before in about two hours, the calcium having been practically all eliminated through the kidney and the mucosa of the colon, so that the period of benefit, even if calcium is needed, lasts only about one-twelfth of one day; an injection of once a week or even once every few days, would have a negligible effect nutritionally. Orally, it is possible to maintain an elevated blood calcium for 24 hours of the day if desired. But even here, we are thinking too much in the terms of laboratory observation and we do not have any assurance that the mere elevation of blood calcium will accomplish any benefit.

Calcium must be fixed in the tissues and utilized in physiological processes if it is to be of value, and vitamins, other food materials, normal acid-base balance and proper endocrine function are all necessary as well as an abundance of calcium. Pharmacologically, in contradistinction to nutritionally, calcium is a true drug with an intense temporary stimulation to the sympathetic apparatus and if that is what is necessary in a certain case of illness, then calcium may be an indicated drug. However, I fear that in the large majority of cases where it is used, there is little idea in the mind of the physician of just what of value it may accomplish, and confess the suspicion that in a tremendous number of cases it is used more for the psychological effect of doing something that produces an effect which the patient can feel "right now" rather than with any intelligent purpose. I am willing to admit that there are occasions, human nature being what it is, when this may be a justifiable means of impressing the patient to retain his confidence. In some cases the abrupt stimulation to the sympathetic nervous system, as for example at the onset of acute infections, may probably even have pharmacologic effect of value. But the indiscriminate

use of this preparation is to be condemned both because of its occasionally dangerous effect and the illogical basis for its use in the great majority of cases.

The American Medical Association deserves credit for its vigorous opposition to the unnecessary use of intravenous medication in general. Its publications point out emphatically that a large majority of medications are no more effective and sometimes less so when used intravenously than when used orally excepting, as the pharmaceutical house advertisements shrewdly point out, because of the impression that intravenous administration makes on the patient and its serving to keep him under closer control of the physician because of his inability to administer his own medicine intravenously.

A dramatic illustration of treacherousness is presented, to proceed further, by ergotamine tartrate. This drug is being recommended in migraine, pruritus, puerperal sepsis, exophthalmic goiter and a variety of other conditions. Here, once more, is an agent that has been used in large mubers of cases with no observable ill effects. On the other hand, Yater and Cahill[6] report a case of pruritus treated with this preparation hypodermically with injections three times a day for six days which resulted in gangrene of the legs necessitating amputation of both legs. In reporting this case, they survey the literature and recite the publication of reports of disastrous results in some twenty cases where ergotamine tartrate was used in treating puerperal sepsis, postpartum bleeding, exophthalmic goiter, etc., with the subsequent development of gangrene, neuroretinitis, cataract, Jacksonian epilepsy, tabes, angina pectoris, and death. In some cases it had been used orally rather than by injection. Disastrous results followed as few as six doses whereas others had tolerated as high as 200 doses before untoward symptoms appeared. Again no means is known of determining before the onset of alarming symptoms which cases are susceptible.

Emetin used intravenously must be added to the list of dangerously treacherous preparations. This assumes new importance in view of the fact that one of the recently featured intravenous injections for the treatment of peptic ulcer contains this drug. At the time of the introduction of this preparation, Leake,[7] Professor of Pharmacology at the University of California, gave a word of caution in its use because of the well-known dangers of emetin to the heart.

Sayid[8] reports two cases of the use of intravenous emetin resulting in auricular fibrillation and the later demonstration of myocardial degeneration in what had been previously apparently normal hearts. Other writers warn of the tendency of this drug to produce auricular fibrillation, auricular flutter, polyneuritis, pyramidal tract degeneration, confusional states, etc.

The writer has under his care one patient who was given this preparation by a practitioner of wide repute without even adequate clinical justification for its administration. In this case an auricular flutter was produced which did not respond satisfactorily to treatment with the result that the patient will require the administration of digitalis for the rest of his life.

Examples could be multiplied and elaborated upon for hours. We mention only a few, such as dinitrophenol used in obesity and followed by the production of cataracts, toxic hepatitis, polyneuritis; mineral oil with its proved effect of robbing the body of vitamin A; iodine, when misused, capable of producing serious complications in connection with various stages of goiter; the toxic effects of vitamin D, especially when used with parathyroid; the bone decalcifying effect of parathyroid extract; the intravenous mercurial diuretics and their production of hemorrhagic nephritis and hemorrhagic colitis when used improperly; the arsenical antiamebic agents and their production of nephritis and polyneuritis; arsphenamin and its relatives and their production of serious hepatitis and agranulocytosis and thrombopenia when used without proper clinical check; insulin and its production of fatal coronary thrombosis when used indiscreetly postoperatively; quinidine and its production of embolism when used in improperly selected cases of cardiac decompensation; sodium bicarbonate and the production of renal damage in connection with the treatment of peptic ulcer; the ovarian hormone, estrin, with its tendency to augment breast and uterine malignancies, to increase the likelihood of ectopic pregnancy, to inhibit the functions of the pituitary, including that of the stimulation of body growth; anterior pituitary-like hormone (antuitrin S, etc.) and its tendency to produce proliferation of ovarian cysts, to transform the Graafian follicle into ovarian cysts and the ultimate production of sclerosis of the ovary with sterility and other consequences of the withdrawal of ovarian function; antuitrin G and its inhibition of sexual maturation and production of thyrotoxicosis; testicular products and their induction of prostatic and testicular atrophy. The problem is almost overwhelming in its extent.

A writer on public speaking states that four questions should be asked of every one giving a public address. The last one is put tersely, "So what?" The answer in this case is simple. The healing profession at large should refuse to participate in wholesale experimentation on its patients. In private practice, records are seldom kept accurately enough or for a long enough time to yield reliable conclusions. New departures in therapeutics should be carried on only where results can be critically and honestly studied as to the possible injurious side effects as well as benefit in regard to the patient's presenting illness.

Much more important, however, is the determination of every physician to adhere firmly to the fundamental principles of intelligent practice. He must let live in his every professional act, his conviction that disease arises fundamentally from a group of circumstances which thwart the manifestation of the life impulse. Faulty nutrition, faulty emotional and psychological attitudes toward life and its problems, faulty mechanical adjustment and use of the body machine, indiscreet excesses and occasionally accident are the basic causes of impaired health and disease. The development of a full understanding of these causes and their operation, and the development of a technic toward correcting them is the only sound foundation for ethical practice. It must be appreciated that life processes cannot be "high pressured" into normal responses. The attempt to secure miraculously rapid results in dealing with disease leads to physiological hotboxes analogous to the results of trying to force any machine to do more than it was built to do. A scrubby rosebush cannot be forced to produce thriving blooms tomorrow or next week by

any amount of forced irrigation and high potency fertilization which, overdone, will choke and burn its roots and destroy rather than nurture it.

The greatest menace of new medical discoveries, as they are at present exploited, is that they create unreasonable expectations of miraculous cures. They lure our attention from more basic and more logical, though less spectacular, methods. Their scientific complexity leaves us feeling inadequate to refute the claims made for them. Their popularization in the daily press and popular magazines, in the minds of the populace "sold" on the idea that science is infallible, creates a demand from the public that is difficult for us to resist. Only penetrating study of the principles of life and determined application of those principles in practice can lead us through the maze of complications created by the scientific approach to medicine toward the goal of the successful relief of human suffering.

REFERENCES

1. Solis-Cohen, Solomon: Pharmacotherapeutics. D. Appleton and Co., New York, 1928, p. 61.

2. Frank, Robert T.: The Present Status of Endocrinological Diagnosis and Treatment. Am. Jour. Obst. and Gynec., 1935 (June) 29:898-900.

2a. Sollmann, Torald H.: The Solubility of Intestinal Ipecac Preparations. Jour. Am. Med. Assn., 1919 (Oct. 11) 7:1125-1127.

3. Palmer, Walter Lincoln and Woodall, Paul S.: Cinchophen—Is There a Safe Method of Administration? Jour. Am. Med. Assn., 1936 (Sept. 5) 107:760-764.

4. Council on Pharmacy and Chemistry: The Relation of Amidopyrine and the Barbituric Acid Derivatives to Granulocytopenia. Jour. Am. Med. Assn., 1934 (June 30) 102:2183-2184.

5. Bower, J. O. and Mengle, H. A. K.: The Additive Effect of Calcium and Digitalis. Jour. Am. Med. Assn., 1936 (Apr. 4) 106:1151-1153.

6. Yater, Wallace M. and Cahill, James A.: Bilateral Gangrene of Feet Due to Ergotamine Tartrate Used for Pruritus of Jaundice. Jour. Am. Med. Assn., 1936 (May 9) 106:1625-1631.

7. Leake, Chauncey, D.: Irrational Mixtures for Spinal Anesthesia and Peptic Ulcer. Jour. Am. Med. Assn., 1932 (Sept. 10) 99:936.

8. Sayid, Ibrahim Abdel: Auricular Fibrillation After Emetine Injection. Lancet, 1935 (Sept. 7) 229:556.

Hemolytic Streptococcic Throat Infection*

RALPH D. VORHEES, D.O., F.I.S.O.

Cleveland

It can be said safely that 50 per cent or more of all throat infections seen in routine practice are caused by hemolytic streptococci. This statement, however, applies only to the causative agent. Mildness or severity in a given case depends upon the virulency and number of organisms present, upon the amount of lymphoid tissue in the throat, upon the amount of local resistance, and what is most important, upon the general resistance of the patient.

There are four outstanding types of malignant hemolytic streptococcic sore throat: epidemic, sporadic, the severe throat infection sometimes seen in scarlet fever, and that found in some forms of erysipelas. If to this quartet we add the septic throat of diphtheria, that of Vincent's angina, and the one the pneumococcus sometimes produces, the greatest number of all malignant throat infections will be accounted for.

In differentiating various throat infections, clinical study and careful laboratory investigation are necessary. Pneumococcus infection may be overlooked unless careful laboratory procedure is followed. Diphtheria and Vincent's infections present rather characteristic clinical pictures. The specific diagnosis can be confirmed readily in each case by laboratory study. In either diphtheria or Vincent's angina, however, mixed infection may also be present. In such instances some form of hemolytic streptococcus is the likely secondary invader—it is an energetic accomplice—and is responsible for the fact that the throat responds slowly or unsatisfactorily to specific treatment.

Epidemic septic sore throat, as a result of milk-borne infection, can be traced to the cow or herd afflicted with mastitis. This type of infection is caused by an encapsulated mucoid hemolytic streptococcus—*S. epidemicus*, an organism that is very virulent and tends to produce complications.

*Delivered before the General Sessions at the Forty-First Annual Convention of the American Osteopathic Association at Chicago, July, 1937.

In sporadic septic sore throat, *S. epidemicus* is a cause in about 10 per cent of the cases,[1] the other 90 per cent being due to forms of hemolytic streptococci about which little as yet is definitely known. The sporadic type of disease is transmitted directly by contact or by carrier and is the one commonly seen from time to time in private practice.

In those hemolytic streptococcic infections which are accompanied by rash, a diagnosis of scarlet fever should be made only upon the development of characteristic symptoms, and upon those that show Schultz-Charlton positive findings. The streptococcus of erysipelas can produce septic sore throat as a complication, but the organism, *S. erysipelatis*, may be difficult to identify.[2]

In all cases of severe hemolytic streptococcic throat infection, the patient should be isolated until repeated cultures show negative findings. As concerns public health, scarlet fever patients are in general well-managed. This should be equally true in all hemolytic streptococcic infections of marked virulency; they are apt to be more dangerous and produce more complications than does scarlet fever.

In hemolytic streptococcic sore throat, the attack is explosive in character and in those cases caused by *S. epidemicus*, complication is the rule. Local throat findings vary. One picture is that of a red, glazed, throat in which the pharynx is red and dry in appearance, the uvula edematous, the tonsils red and injected, yet little swollen. Another picture is the water-soaked throat in which the tissues are red, uniformly swollen, and greatly so. Still another picture is the follicular ulcerative throat with its whitish slough and edema. In all these types the local pain and discomfort is variable. In some cases the disease runs its course with the throat picture changing but little, while in others variation from the dry red throat to one of the other types may be expected.

At the onset, general symptoms keep pace with

the rapid developments in the throat. Prostration, general muscular pain, and other constitutional disturbances are marked; temperature is always raised, sometimes quite high, and pulse is rapid, usually displaying a tension of poor quality.

In cases that terminate uneventfully the marked early findings usually last from three to five days, and then slowly abate in from two to three days. Complications most often develop during the first week of illness. If early symptoms grow worse or do not abate in three or four days, or if favorable progress is suddenly interrupted, complication is likely under way. Local complication is to be suspected when the patient is unable to open the mouth freely, and tenderness and induration appear at the angle of the lower jaw. Chills may be indicative of "bacterial showering" into the venous circulation of the neck. Local complications are otitis media and its own train of complications, severe tonsillitis, peritonsillar abscess, parapharyngeal abscess, adenitis or cellulitis of the neck. Other complications not uncommon are bronchopneumonia, pleurisy, arthritis, nephritis, and endocarditis.

Whether or not such complications develop depends upon the state of individual resistance, upon how well the body can confine, or can be helped to confine, the reaction to the throat tissues primarily involved. Local complications are manifested when initial barriers are broken through and new foci are established in neighboring tissues. This is a process of direct extension of infection from one tissue to another. As a part of nature's localizing or walling-off activity in acute infections, thrombosis of the small vessels plays a very important role. Sometimes the efficiency of this mechanism is crippled. The protective thrombotic plugs may themselves become infected, crumble into the blood stream and thereby transport infection to other parts of the body. In some of the very virulent hemolytic streptococcic infections, thrombosis is practically prevented and lymphangitis and thrombophlebitis of the small vessels develop. In such instances major avenues are quickly opened and the body is subjected to infection in overwhelming dosage.

Before entering into a discussion of therapy in severe hemolytic streptococcic throat infections and their resultant septicemias, emphasis must be placed upon the fact that as yet there is no infallible specific therapy. This is equally true of virulent hemolytic streptococcic infection in any part of the body, for example, puerperal sepsis or lateral sinus thrombosis. Likewise the fact may be emphasized that in all virulent hemolytic streptococcic infections, throat infection included, resultant septicemias tend to follow similar general patterns. These septicemias are modified only according to reactions at the primary sources of infection, the initial lesion, and according to reactions within the tissues or organs secondarily involved. In all hemolytic streptococcic infections which manifest secondary involvement, i. e., complication, treatment is to be administered to that complication in its own peculiar way. This same principle underlies treatment for complications when they develop secondarily to severe streptococcic infection of the throat.

Upon the first visit to any patient complaining of acute sore throat or tonsillitis, a throat culture should be taken and a throat smear should be made as a routine part of the examination. This simple procedure materially assists in diagnosis and in many instances leads the way to early and proper treatment.

In local management of hemolytic streptococcic throat infections, many measures are carried out as in ordinary acute tonsillitis and pharyngitis. There is no "one" treatment. Art in handling these cases demands that many local therapeutic procedures be known. The point is, to apply or modify local treatment according to clinical progress and according to the comfort or lack of comfort of the patient. Doing everything may be as bad as doing nothing. (This criticism is equally true in general therapy.)

Since clinical reaction in every severe hemolytic streptococcic throat infection is more or less a law unto itself, it is practical here only to discuss application of local therapy in a general way. Because we wish the body to work unhampered, it is first necessary to examine for, and to correct, any previously exisiting bony or soft tissue lesion found in the cervical and upper thoracic spinal regions. After this is done, manipulative therapy is administered according to need, and as occasion arises. When there develops tenseness, tenderness, soreness or swelling in the region of the angle of the lower jaw, it is necessary to determine by manual examination the character and extent of the tissue changes. If the involved region seems sharply demarcated, and surrounding and nearby tissues present fairly normal characteristics, it is best to employ radiant heat or some other form of antiphlogistic treatment. In our own practice we are partial to infra-red radiation and the application of hot, moist heat. If, away from the central involved region, the surrounding and nearby tissues seem abnormal, if they are congested or are on tension, they should be normalized in order to free the circulation and to eliminate possible stasis of the fluid tissue movements. Many times, through reflex action and because of neck tissue derangements, bony malposition and spinal muscle tensions are brought about. Such lesions are incidental to the disease. Such physical findings are best dealt with by employing gentle, deep, soft tissue relaxation.

In instituting local therapy to the pharynx proper, Chambers[3], Senior Member on the Eye, Ear, Nose and Throat Staff at the Los Angeles County Osteopathic Hospital, begins treatment by using the finger to break up adhesions in the fossa of Rosenmueller where pockets of infection might be found. This procedure is then followed by daily swabbing of the throat and posterior nasopharynx with iodocresol. Hardy[4] recommends the early use of 60 per cent silver nitrate as a very effective means of checking further invasion of infection. The silver nitrate is applied directly to isolated follicles in the pharynx or to follicular or ulcer formations on the tonsils. We have found benefit from the daily use of Mandl's Paint† applied generally to the throat structures; also from the use at

† Mandl's paint: Potassium iodide ..... 1.0 Gm.
Iodine ..... 0.46 Gm.
Glycerine ..... 30.00 cc.

two hour intervals of hot salt and soda throat irrigation, and from the use of plain steam inhalations. Steam inhalation is particularly useful in the presence of deep tonsil or peritonsillar tissue involvement where the patient is unable to get the mouth properly open.

Administration of manipulative therapy to articulations and soft tissues in constitutional treatment for hemolytic streptococcic throat infections follows the same basic principles as govern treatment for acute infections in general. We would make only this observation: sometimes in acute throat infections, nature appears to be more than a past master in the art of immobilization. The normal amount of physiological splinting of cervical tissues is exceeded. There is, in effect, almost entire immobilization of the upper and middle thoracic regions. This constitutes essentially, a massive block lesion. Freeing the body of this excessive tension makes for better general function, often adds almost immediate, measurable comfort to the patient. When this condition develops, or is found present in severely ill patients, its reduction is usually most effectual when brought about by fractional‡ treatment, such as deep soft tissue relaxation, elevation of the ribs, and springing of the thoracic and upper lumbar spine. Short, well-directed, specific treatment, administered at frequent intervals, gives best results in the seriously ill patient.

The prescribing of a specific diet in marked throat infections is usually a problem. At least a quart of fluid, including fruit juices, and at least eight ounces of glucose should be consumed daily. When, for any reason, nourishment cannot be taken by mouth, intravenous glucose, subcutaneous saline, or subcutaneous glucose in saline solution should be given according to the individual needs of the patient.

Treatment for severe hemolytic streptococcic blood stream infection secondary to hemolytic streptococcic sore throat presents a very real problem, and mortality in the extremely malignant cases is apt to be high. As has been stated previously, treatment for all severe hemolytic streptococcic septicemias, regardless of the primary source of infection, is unstandardized and unsatisfactory. There is no treatment that can assure complete control of the condition in any given case. The ideal therapy has not yet been found. Broadly speaking, present therapy for these severe septicemias is founded upon basic principles such as those supporting the general constitution, of building active immunity, of conferring passive immunity, or of administering chemical agents that may have definite chemotherapeutic activity.

Apart from the usual routine constitutional care, choice of therapy in a given case of hemolytic streptococcic throat infection rests upon clinical findings, i.e., the degree of sepsis present, and upon the positive diagnosis of generalized blood stream infection as confirmed by blood culture studies. In those cases in which general infection is recognized early, and in which sepsis is not too marked, treatment may be administered upon the basis of building active immunity. Here, antigenic therapy, with or without shock according to dosage and particular agent employed, may be beneficial. But in extremely virulent cases of infection, little or no time can be spent in an effort to build up active immunity; natural defensive forces are overwhelmed and marked sepsis is in evidence. In such instances, treatment must be administered from the point of view of giving immediate assistance and support. For that purpose, blood transfusion, passive immunizing agents, and chemotherapeutic agents are usually employed.

In cases of severe toxemias and severe blood stream infection, blood transfusions are always valuable as a general supportive measure, and if blood could always be obtained containing the proper antibodies and antitoxins, blood transfusion would be a perfect therapeutic treatment. There is an occasional lucky strike in the transfusion of convalescent blood from a donor who has recently recovered from the same disease, or from a donor who has been purposely immunized. But regardless of proper antibody and antitoxic content, blood transfusion remains a worth-while precedure. Small transfusions of whole blood, repeated as necessary, are to be preferred to large transfusions, or to the use of citrated blood. With blood transfusion, marked favorable change is usually noted in those cases in which there is a progressive loss in hemoglobin percentage in association with pronounced secondary anemia (3,000,000 red cells a cubic millimeter, or less), and in those cases in which white cell counts are below 6,000 or above 25,000 a cubic millimeter. In hemolytic streptococcic infections indications for repeated transfusion are usually most accurately determined by frequent routine blood studies, the most immediate important part of which is, at least, daily hemoglobin readings. When hemoglobin falls to or near 55 per cent, transfusion needs to be repeated.

Perhaps with the exception of treatment in erysipelas and in scarlet fever, polyvalent antistreptococcic serum enjoys the widest usage of any of the agents administered, in an attempt to confer passive immunity in cases of severe hemolytic streptococcic septicemia of throat origin. This polyvalent serum is readily obtained and can be given without delay, such as is necessitated by any laboratory attempt to procure a specific serum for a given type of infection. Too, the development of a specific serum had best be left to those workers highly specialized in that field. Concerning the use of polyvalent antistreptococcic serum, Chambers[3] says, "We use the polyvalent antistreptococcic serum in a good many severe cases and do find that it has a definite therapeutic value, but it must be very carefully administered or the patient may develop serum sickness."

In passing it may be of interest to note that MacKenzie[5] has reported thirty-two consecutive cases of very severe throat infection in which x-ray treatment was successful. All these cases presented terrific throat and tongue edema, temperatures from 104 to 108 F., and pulse rates from 130 to 160 a minute. X-ray treatment was given after other forms of treatment had failed. In from twelve to eighteen hours after x-ray treatment, temperatures returned to normal.

Chemotherapy in the form of sulfanilamide and its derivatives is now very much in the foreground in the treatment of severe hemolytic streptococcic infections—the betahemolytic streptococcic infection in particular.

Colebrook and Kenny[6] made one of the first reports to appear in the English language, and Long

‡ Fractional: A term used by the author to designate treatment of a gentle character as opposed to vigorous corrective work in seriously sick patients.

and Bliss[7] in January, 1937, made the first report to appear in American literature. Since that time much laboratory and clinical investigation has been done. At present it would seem that sulfanilamide and its derivatives offer much in the therapeutic treatment of severe hemolytic streptococcic infections. Whether or not, out of its use may be developed an entirely safe and specific therapeutic treatment, remains to be seen. Perhaps experience may show that its usefulness is limited to certain restricted fields. Time alone will tell. [See editorial on page 101 of this issue of THE JOURNAL—Editor.]

REFERENCES

1. Pilot, I., and Rosenblum, P.: Sore Throat in Children Due to Streptococcus Epidemicus. Am. Jour. Dis. Child., 1932 (Nov.) 44:994-998.

2. Pilot, I.: Septic Sore Throat: Clinical and Bacteriological Considerations. Med. Clin. N. Amer. Chicago Number. W. B. Saunders Co., Philadelphia, 1936 (Jan.) 19:1143-1150.

3. Chambers, F. S.: Personal Communication.

4. Hardy, A. C.: Round Table Discussion on Streptococcic Infections. Jour. Osteo. Ophth. Otolaryngol. Rhinol., 1936 (Apr.-May-June) 18:24-29.

5. MacKenzie, A. R.: Acute Septic Throat—Treatment with Roentgen Rays. West Virginia Med. Jour., 1935 (May) 31:196-198.

6. Colebrook L., and Kenny, M.: Treatment of Human Puerperal Infections, and of Experimental Infections in Mice, with Prontosil. Lancet, 1936 (June 6) 1:1279-1286; Treatment with Prontosil of Puerperal Infections due to Hemolytic Streptococci. Lancet, 1936 (Dec. 5) 2:1319-1322.

7. Long, Perrin H., and Bliss, Eleanor A.: Para-Amino-Benzene-Sulfonamide and Its Derivatives; Experimental and Clinical Observations on Their Use in Treatment of Betahemolytic Streptococcic Infection. Jour. Am. Med. Assn., 1937 (Jan. 2) 108:32-37.

The Cleveland Osteopathic Hospital and Clinic, 3146 Euclid Ave.

Appendicitis*

HARRY L. COLLINS, M.D., D.O.
Chicago

Appendicitis has probably received more attention in the literature and on convention platforms than any other surgical problem of the abdomen. In view of the frequency with which pathological conditions in the appendix are encountered, this prominent position is entirely justified.

Anatomy—The normal position of the ileocecal apparatus is in the right iliac fossa, the cecum occupying the triangular space between the iliac vessels and Poupart's ligament. The terminal position of the ileum ascends obliquely and crosses the iliac vessels midway between the promontory of the sacrum and Poupart's ligament. The normal position of the appendiceal attachment to the normal cecum is at the termination of the anterior longitudinal muscular band of the cecum. The appendix varies from 8 to 11.5 cm. in length and from 3 to 5 mm. in thickness with the lumen approximately 1 to 3 mm. in diameter. Normally the appendix has a wide range of mobility. It is comparatively straight or only slightly curved. Along its medial border is attached the mesoappendix through which run the blood vessels and some of the lymphatics. Normally the mesoappendix extends diagonally upwards and to the left, uniting with the mesentery of the terminal portion of the ileum.

Has the vermiform appendix any function? Is it of any value in the animal economy? These are questions which have interested physiologists for more than a century, and are still not definitely solved. Presumption is all we have as yet to guide us in answering the question. But while presumption from analogy and from accessory data may suggest an affirmative answer, the ultimate decision must rest upon the crucial test of demonstration. We have in the appendix a distinct division of the alimentary tract, present in man, in apes and in certain herbiverous animals, chiefly rodents. The normal position in relation to the cecum is such as to promote the escape of its own secretions, while hindering the ingress of foreign bodies and fecal matter. Moreover, the minute anatomical structure of the appendix has characteristics especially its own. It is peculiarly rich in lymphoid tissue, and so closely related in this respect to the tonsils that it has been called by some observers the abdominal tonsil, and presumed by some to have a similar function. Among the theories advanced as to what is the function of the appendix, one or two seem more logical than others:

First, the appendix, like the tonsil, upon receiving samples of bacteria, may contribute something to the defensive mechanism of the body by aiding in the formation of antibodies.

Second, the appendix, by the addition of its secretion, may help in promoting the passage of waste material.

The remaining theories, of which there are several, are not generally considered as more than passing conjectures. Even as to the two mentioned, we have the definite knowledge of many instances in which a healthy or relatively healthy appendix has been removed without demonstrable deleterious effect.

Though the embryological development of the cecum and appendix has been known for many years, it has received but little mention outside of the classroom. The cecum and beginning appendix (the latter being that which replaces the primordial appendix), early in fetal life lies in the right upper quadrant of the abdomen, next to the liver. As the fetus develops, the cecum and appendix descend and the cecum rotates until we find it at birth occupying its normal location above mentioned.

A fact of considerable importance and one we wish to emphasize is this: In a large number of human beings this normal sequence of events in the embryological development, descent, and rotation, of the cecum does not take place completely and as a result these congenital anomalies predispose the appendix to disease. (Figs. 1 and 2)

The term *appendicitis* means an inflammation of the appendix. How does this develop, or what allows it to occur? Before considering the etiological aspect of appendicitis, some of the prerequisites for an ap-

*Delivered before the Surgical Section at the Forty-First Annual Convention of the American Osteopathic Association at Chicago, July, 1937.

pendix to be healthy might be enumerated:

First, the blood and lymph circulation to and from the appendix must be unimpeded.

Second, the appendix must have a mechanism which allows an emptying of its contents into the cecum, but a selective ability to choose what of the cecal contents it will permit to pass into the appendix.

Bearing these requirements for a healthy appendix in mind, the factors which prevent their maintenance can be easily stated:

I. Congenital anomalies of the appendix or cecum and allied structures are common.

II. Interference with the proper nerve mechanism by osteopathic lesions may disturb not only the circulation of blood and lymph and the muscle physiology of the appendix, but also the cell physiology.

III. Even a casual consideration of the innumerable variations from normal of the appendix will make obvious the fact that most of these abnormalities will result either in an interference with the proper emptying of the appendix into the cecum, or with the selection of appendiceal contents. If the latter occurs, feces and other foreign bodies will enter the appendiceal lumen.

IV. Anomalies of the mesoappendix may interfere with the blood and lymph circulation. (Fig 3) Any of these conditions may make the appendiceal tissue an easy prey to the exciting causes of inflammation, which a normal appendix might successfully cope with. Frequently the mesoappendix will cause a kink or twist of the appendix which interferes with its proper emptying into the cecum, particularly if the

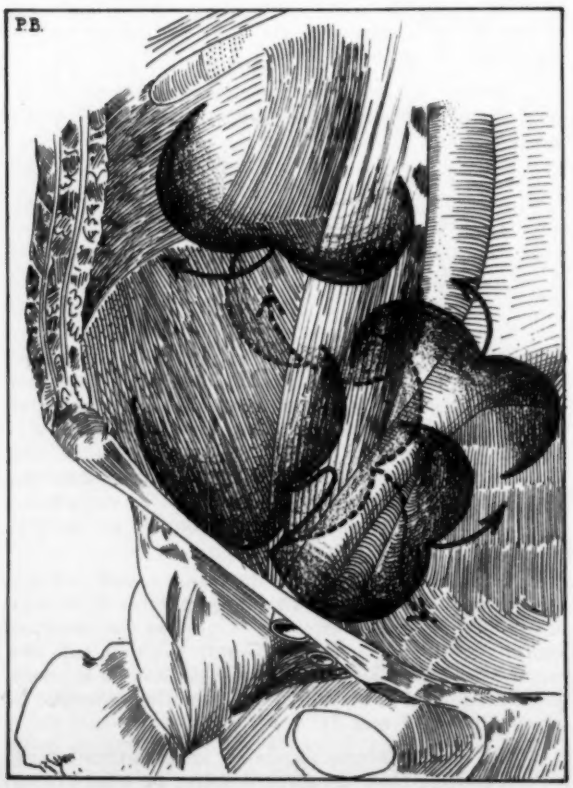


Fig. 1.—Abnormal positions of the cecum.
(Drawings on pages 92 and 93 are by Peter A. Boggan, D.O., Dayton, Ohio.)

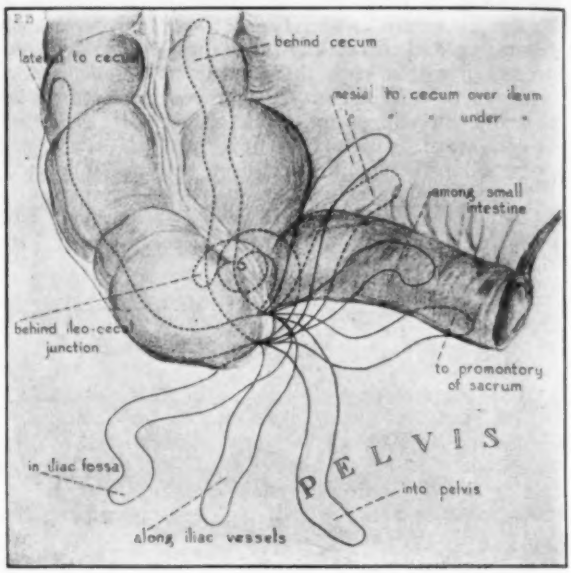


Fig. 2.—Abnormal positions of the appendix.

appendix becomes inflamed. If these abnormalities were rare or even infrequent, only passing mention would be justifiable; but a fact not generally realized and one which can hardly be overemphasized is the high percentage of congenital malformations of the appendix and its adjacent structures in cases of both acute and chronic appendicitis. In at least 75 to 90 per cent of all cases of acute and chronic appendicitis, there are defects in embryological development that can be demonstrated. In the remaining few, adjacent pathology, for example inflammations of the fallopian tubes, tumors of the adnexa, inflammations or tumors of the cecum, foreign bodies in the appendix or the appendix being in a hernial sac, will account for most of the remaining cases.

Some one of the exciting causes, such as *(a)* osteopathic lesions, *(b)* disorders of digestion, including constipation, *(c)* inflammations of the uterine adnexa, *(d)* foreign bodies, *(e)* parasites, *(f)* pathogenic bacteria, either entering by way of the adjacent large bowel, or by way of the circulation, is all that is necessary to produce an inflammatory process which may be either acute or chronic.

If the predisposing and exciting causes are not sufficient in degree or amount, only a subacute or chronic inflammation may result; if they are of sufficient magnitude, an acute inflammation will occur. Infinite varieties of both are common.

PATHOLOGY OF AN ACUTE APPENDICITIS

It is only by means of observations made at operation and at autopsy, accompanied by examinations of each specimen in detail, that a general picture representing the pathological changes taking place in inflammations of the appendix can be made, or that the relation between the etiology and the pathological anatomy may be determined.

A classification of the various forms of inflammations of the appendix is somewhat difficult, for there is no definite line dividing one from another.

The following classification seems the most simple, dealing first with the changes occurring in the

appendix itself, then with the peritoneum involvement, and then with some of the various widespread complications that might develop.

I. Acute appendicitis
   (a) catarrhal
   (b) diffuse
   (c) purulent
   (d) gangrenous
   (e) perforative

II. Acute appendicitis
   (a) with peritonitis (local or general)
   (b) with metastatic affections

III. Subacute and chronic appendicitis.

By acute catarrhal appendicitis is meant an inflammatory process involving only the mucous lining. The inflammation may go no farther, the appendiceal contents emptying into the cecum and the blood and lymph circulation being but temporarily affected. One of three sequelae may develop: First, the inflammation may subside by resolution; second, the acute inflammation may merge into a chronic state, or be chronic from the beginning, or third, it may develop into a *diffuse appendicitis* where the inflammatory process extends beyond the mucosa, and there is a general involvement of all the coats. In diffuse inflammation the appendix increases in all dimensions; it is tense and exceedingly hyperemic; its color is bright red or dark mahogany. The termination of these cases varies rarely. They usually subside by resolution. Occasionally they subside to become chronic; more often rapidly developing a purulent exudate in the appendiceal canal, becoming a *purulent appendicitis*. Even this stage is at times self limited, the appendiceal material discharging into the cecum and resolution or chronic appendicitis resulting; more often, however, areas of ulceration and necrosis develop which increase in extent, producing a gangrenous appendicitis which will invariably rupture producing a perforative appendicitis, with localized peritonitis and abscess formation if the patient is fortunate, general peritonitis and other possible lethal complications if he is not so fortunate.

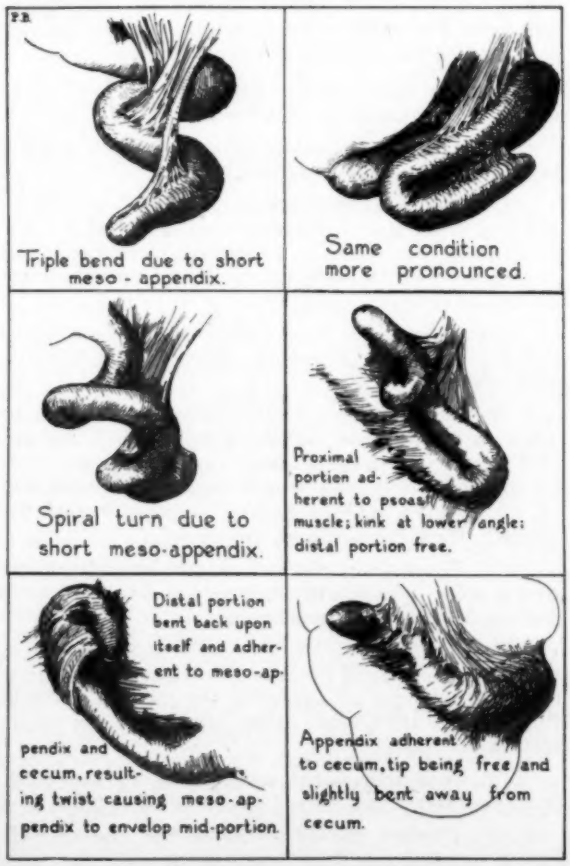

Triple bend due to short meso - appendix.
Same condition more pronounced.
Spiral turn due to short meso-appendix.
Proximal portion adherent to psoas muscle; kink at lower angle; distal portion free.
Distal portion bent back upon itself and adherent to meso-appendix and cecum, resulting twist causing meso-appendix to envelop mid-portion.
Appendix adherent to cecum, tip being free and slightly bent away from cecum.

Fig. 3.—Common anomalies of the mesoappendix.

Chronic appendicitis may follow or precede an acute appendicitis; many cases are discovered accidentally in the course of operations undertaken for the relief of other abdominal disease. Chronic appendicitis may be a source of focal infection over a long period of time; it may interfere with bowel physiology and it is an ever-present serious menace because it may develop into acute appendicitis at any time.

To the above brief summary of pathological entities of acute and chronic appendicitis the two known facts covering congenital anomalies should be added, namely, the frequency—more than 75 per cent of acute and chronic appendicitis cases develop in congenitally abnormal appendices—and the prognosis—once the inflammation begins, the appendix with a congenital defect is less capable of righting itself than the one without a congenital defect.

Bearing these facts in mind, one who is attending a case of appendicitis is immediately confronted with the important clinical question: Is the type of congenital anomaly such, in that particular case, that the inflammation will subside? In acute inflammations a mistake in judgment causing one to await subsidence of the acute attack may result in grave consequences. To persist in ignoring the troubles and dangers in a case of chronic appendicitis is a serious thing. The detriment to health and the dangers of an acute process developing are ever present.

How can the particular pathological condition, congenital or otherwise, in any given case be accurately determined, in order that one may estimate the chances an individual will have to recover from an acute attack? The answer, of course, is that it cannot be ascertained definitely before operation. Chiefly because of this fact, there is a great uncertainty in the minds of many as to the safest and wisest manner of handling cases of acute appendicitis.

No inflexible set of rules can be formulated that will be 100 per cent correct; however, the following suggestions have been found very helpful. In acute cases, *(a)* if there is no rebound spasm (elicited by first applying gentle firm pressure on the opposite side of the abdomen and then quickly removing that pressure), *(b)* if the white blood count, and in the differential, the polymorphonuclear count, is not alarmingly high, *(c)* if the signs of general toxemia, dehydration, and shock are absent, and *(d)* if the attack has not been present for more than twelve hours since the onset, then one is justified in instituting the usual nonsurgical measures, such as

(1) Nothing per mouth but water;
(2) Ice bag continuously to appendiceal region;

(3) Osteopathic spinal manipulation in an attempt to overcome osteopathic pathology, but carefully and judiciously, rather than heroically, applied;

(4) Small, low enemas, repeated, if necessary, to clean out the lower bowel;

(5) *Absolutely no catharsis of any kind.*

If, under this regime, improvement is not definite in eight to twelve hours time, operation is the safest procedure. If, at any time in this period, evidence develops, or repeated blood counts show, that an increase in severity of the condition is apparent, removal of the appendix is the wisest course.

In the chronic cases every effort should be made to determine whether it is the appendix or some other structure that is the cause of the patient's symptoms. If evidence can be obtained that definitely indicates the appendix is at fault, it had best be removed.

To jump at the conclusion that every pain in the right lower quadrant is appendicitis is just as unforgivable and reprehensible as to neglect a careful investigation to determine the cause, or indefinitely to postpone removing an appendix that definitely has been proved to be diseased.

Though the appendix has many times been sacrificed unnecessarily on the altar of diagnostic perplexity, when such has been the case it has been due usually to indolence or carelessness in neglecting a careful investigation to determine definitely the cause of the symptoms the patient presents for solution.

25 E. Washington St.

Symposium on The Plastic Basicranium*

I. The Basicranium

C. L. NAYLOR, D.O.
Ravenna, Ohio

My part in this morning's program is to endeavor to prove the truth of Dr. Charlotte Weaver's statement[1] that the bones of the basicranium are true morphological portions of highly modified vertebrae.

To do this I have taken these two folios of her drawings, these skulls, and these two of her clay models, and will attempt to review in twenty minutes the two-hour lecture which Dr. Weaver has given before the Akron and Cincinnati District Associations, and the Louisville Association last year. In giving this lecture, Dr. Weaver has always used these same drawings, skulls, and models.

In studying the "plastic basicranium" it is well to recall that the "head" is formed of the face and the skull. The skull is formed of the vault and the base. The base of the skull is called the basicranium. The import of Dr. Weaver's lecture is that the basicranium is plastic; that that plasticity inheres in the true articulations which exist in the base; and that the osseous parts which compose that base are absolutely identifiable as true morphological parts of true, though highly modified, vertebrae.

A part of her thesis is that the bones of the skull and face compose three, and three only, but three complete vertebrae. These she has called "the three cranial vertebrae." Those portions of these vertebrae which compose the base of the skull form what she calls the "plastic basicranium." This plasticity, as we have just said, is an attribute which the base enjoys by way of its articulations. These articulations are true interarticulations of true morphological parts of true vertebrae.

It must be noted here that in preparing the present paper for THE JOURNAL the making of certain minor changes became necessary since it was impossible to publish in the pages of THE JOURNAL the two complete folios of Dr. Weaver's illustrations. This being true, she has prepared composites of her illustrations in order to condense the materials, and, although this does not form so nearly perfect a presentation of the subject as does her unabridged two-hour illustrated lecture, yet it will, we believe, still be understandable and convincing.

In presenting her materials, Dr. Weaver brings out the following main features:

(1) The human membranous embryo is a three layered tri-concentric organism;

(2) The human "embryonal area," as distinguished from the extraembryonal areas of the triconcentric organism, is a bilayered organism; all "extraembryonal" portions of the triconcentric organism eventually slough;

(3) It is only after polarization takes place that the human fetal embryo becomes a trilayered organism;

(4) Polarization of the bilayered organism takes place in three distinct morphological regions. Her first folio of illustrations carries out the process of this triregional morphological differentiation of the embryo. These regions she has named the cephalic, the precaudal, and, the caudal;

(5) These three distinct morphological regions of the polarization of the embryo are dominant, controlling axiation of the embryo;

(6) Careful study of the osseous axis shows these three morphological regions so distinctly that it is impossible longer to disregard the meaning of this fundamental triregional differentiation of the polarization process;

(7) This triregional axiation is of the most profound significance to the science of osteopathy;

(8) Further, the vertebrae of the osseous axis are to be seen in their average state in the precaudal of the three morphological regions; in their

*This symposium constituted the morning program of Dr. Charlotte Weaver's First Annual Postgraduate Clinic for the Study of Nervous and Mental Diseases, held September 13, 1937, at Mayflower Hotel, Akron, Ohio.

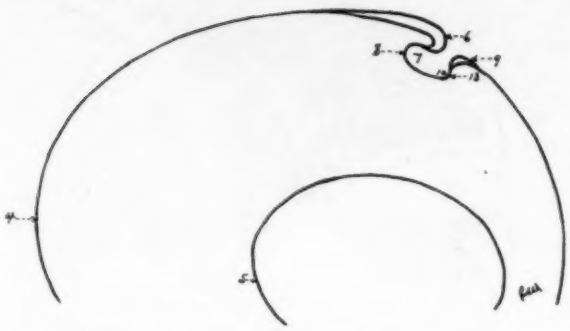


Fig. I.—Schematic diagram of ventrodorsal saggital section of human embyro, showing endodermal plate (4), ectodermal plate (5), Hensen's node (6), evagination of endodermal plate (7), cephalad evagination (8), proliferation of second group of cells (9), evagination caudad (10) and (13).

state of completest dedifferentiation in the caudal region; and approaching the state of their greatest expectancy of differentiation in the cephalic region;

(9) Still further, the entire contents of the axial canal follow this scheme of cephalad differentiation and caudad dedifferentiation.

She classifies and enumerates the vetebrae as in the following diagram:

MORPHOLOGICAL CLASSIFICATION OF VERTEBRAE

3 cranial (completely differentiated)			3 cephalic	37 (or 38) true vertebrae
2 transition	7 cervical	24 presacral	29 precaudal	
Atlas				
Axis				
5 typical				
12 thoracic				
5 lumbar				
5 sacral (transitional)				
5 (or 6) coccygeal (dedifferentiated)			5 (or 6) caudal	

SUMMARY

Cephalic	3
Precaudal	29
Caudal	5 (or 6)
Total	37 (or 38)

In Fig. II, then, we have a composite diagram of the human embryo showing (1, 2, and 3) the three triconcentric germinal layers, the outer of which, (1), is the trophoblast, the middle of which, (2), is the yolk sac membrane, the inner of which, (3), is the amnionic membrane.

Now we will direct our attention to the two convexities, (4 and 5), which are formed at the most dependent portions of 3 and 2 respectively. These two convexities are the embryonal plates. The upper, (4), formed by the amnionic membrane, is the endodermal plate; the lower, (5), formed by the yolk sac membrane, is the ectodermal plate. These two plates together, (4 and 5), are known as the "embryonal area." All the balance of the organism as it exists at this stage sloughs at birth; only that which is subsequently formed from 4 and 5 carries forward into the formation of the structure of the viable embryo. It is by means of these two plates that the metamorphosis of the organism from its membranous embryonal to its fetal embryonal state is brought about. These convexities are known jointly as the embryonal

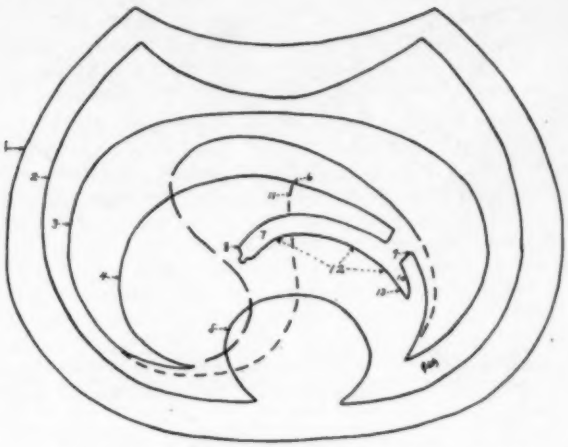


Fig. II.—Schematic diagram of ventrodorsal sagittal section of human embryo, showing trophoblast (1), yolk sac membrane (2), amnionic membrane (3), endodermal plate (4), ectodermal plate (5), Hensen's node (6), evagination of endodermal plate (7), cephalad evagination (8), proliferation of second group of cells (9), evagination caudad (10), dotted line separating the cephalic from the precaudal region (11), notochord (12), evagination caudad (13).

area, which is thus distinguished from the extraembryonal portions of the membranes. So, since from here on we are interested in this area exclusively, in Fig. I the embryonal area has been "lifted out" of the membranes and made to stand alone, as it were, in your vision.

As will be seen at 6, in Fig. I, the cells of the endodermal plate are proliferating. This little mass of proliferating cells is called Hensen's node. The formation of this little group of cells marks the beginning of polarization of the embryo.

At 7, this proliferation has caused the endodermal plate to evaginate; and, at 8, the evagination has grown cephalad. This is the beginning of the formation of the notochord, (see 12, Fig. II) and it marks the second stage in the process of polarization of the embryo.

As polarization progresses, axiation (see Fig. II), takes place in two directions, the embryo growing both cephalad and caudad from the site (6) of Hensen's node. This site, which marks the inception of polarization, is apparently a strategic one, for it demarks the differentiation of the cephalic from the precaudal morphological region of the embryo. It exists on a cross level between what will later become the occiput and the atlas, the third cranial and the first cervical vertebrae. All parts anterior to this level are head parts. All parts posterior to this level (6) and anterior to 9 form the precaudal portion of the embryo.

Now we must turn our attention to the caudal, or third morphological, region of the forming embryo. At 9, Fig. I, and shortly after the formation of the cell-mass, (6), another group of cells begins to proliferate. The proliferation of this cell group (9), causes the upper embryonal layer to evaginate caudad, (10), and, as that evagination proceeds to grow caudad (13), it forms the caudal end of the embryo. The coccyx alone represents this caudal portion of the embryo.

If we look at the drawing of the notochord in the composite, (Fig. II), we can figure out in detail the three morphological regions of the notochord. The

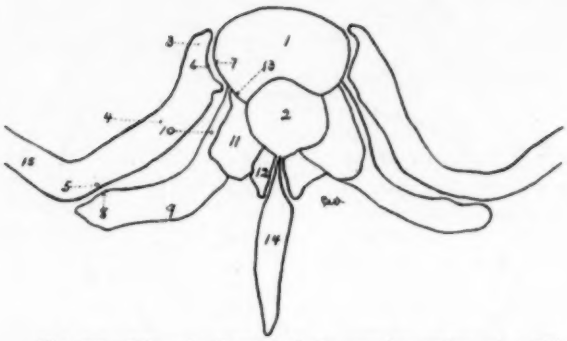


Fig. III.—Schematic diagram of the superior surface of a fifth thoracic vertebra. The morphological parts represented in this diagram are numbered the same as those appearing in Fig. IV of the third cranial vertebra, representing homologous parts of the two vertebrae: centrum of body (1), neural canal (2), head of rib (3), neck of rib (4), articular tubercle (5), articular facet (6), costo-articular facets (7) and (8), transverse process (9), pedicle of neural arch (10), intervertebral articular facet (11), lamina of neural arch (12), neurocentral suture (13), spinous process (14), shaft of rib (15).

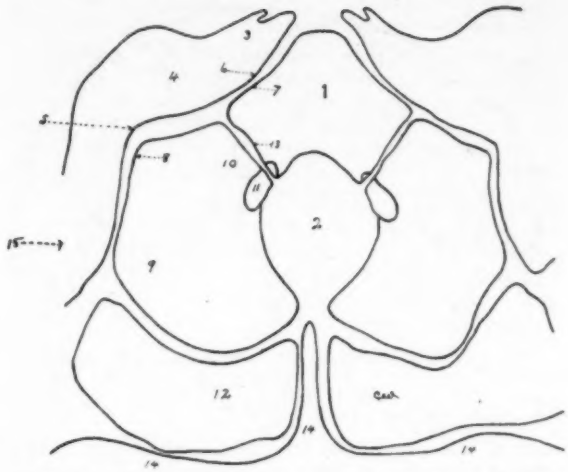


Fig. IV.—Schematic diagram of the superior surface of the third cranial vertebra sketched from still life. See legend under Fig. 3 for identification of numbers. (The intervertebral articular facet is shown. This should have been in dotted line inasmuch as it does not show from superior surface but was superimposed on sketch in order to show its placement and to identify its morphology.)

cephalic region anterior to the dotted line, (11), formed by the cephalad growth of the evagination at 6; the precaudal region, posterior to the dotted line, (11), and anterior to 9, formed by the caudad growth of the embryonal axis from 6; the caudal region formed by the caudad growth of the evagination from the group of cells, (9).

By cephalic, we mean that portion of the polarized embryo which forms anterior to 6, the cross level between the atlas and the occiput; by precaudal we mean that portion of the embryo which forms between 6, the cross level between the atlas and the occiput and 9, the cross level between the sacrum and the coccyx; by caudal we mean that portion of the embryo which forms posterior to 9, the cross level between the sacrum and the coccyx.

Thus in the process of polarization of the embryo we have three distinct morphological regions of growth—the cephalic, the precaudal, and the caudal.

The notochord, (12), is the first *axial* organ to be formed in the furtherance of the polarization process in the human. It is formed in three distinct morphological regions—the cephalic, the precaudal, and the caudal.

The cephalic portion of the notochord forms the three cranial vertebrae; the precaudal portion forms the 7 cervical, the 12 thoracic, the 5 lumbar and the 5 sacral vertebrae; the caudal portion forms the 5 (or 6) coccygeal vertebral elements.

All of the later textbooks on embryology show cuts in which the notochord grows up into the dorsum sellae just posterior to the sella turcica. What possibly becomes of its most anterior tip just cephalad to this point will be discussed at a later hour.

From the human notochord throughout its entire length are derived those cells which form the embryonal third layer, the mesoderm. Thus we have the human organism having shed one layer (trophoblast, 1), completely, two layers (yolk sac membrane, 2, and amnionic membrane, 3) in part; and having retained its inner layer as its upper, having made of its middle layer its lower, forming its own middle layer autochthonously.

From the notochord and that portion of the mesoderm which lies nearest it and which is known as the paraxial mesoderm, the osseous axis is formed. The osseous axis becomes segmented and these segments are known as vertebrae and their intervertebral discs and their costal extensions or ribs.

For a fairly good illustration of the stages of the morphological development of these architectural units of the osseous axis the reader is referred to Sir Arthur Keith's "Human Embryology and Morphology."[2]

These morphological parts are (*a*) the notochord, (*b*) the vertebral bow, (*c*) the perinotochordal space. The notochord forms the centra of all vertebrae, and the intervertebral discs. The vertebral bow forms the (*a*) hypochordal bow, (*b*) the pedicles of the neural arch, (*c*) laminae of the neural arch, (*d*) roots of the pedicles, (*e*) transverse processes, (*f*) spinous processes, (*g*) articular facets, and (*h*) the ribs.

Fig. III is an adaptation by Dr. Weaver from Fig. 158 C, Piersol's "Human Anatomy,"[3] which, according to that text, illustrates the fifth thoracic vertebra. The tabulation of parts is Dr. Weaver's.

Fig. IV is a diagram of the third cranial (occipital) vertebra sketched from life by Dr. Weaver. The morphological parts of Figs. III and IV are numbered alike.

Fig. V is a diagrammatic schema which represents the three cranial and the upper three cervical, vertebrae. It will be noticed that the space which is crosshatched throughout is the notochord, and that, for ease of identification, the component parts of each alternate vertebra are shaded. At this stage the notochord has developed into the centra of the bodies of the vertebrae and into the intervertebral discs.

1, 1a, 1b represents the first cranial vertebra,
2, 2a, 2b represents the second cranial vertebra,
3, 3a, 3b, represents the third cranial vertebra,
4, 4a, 4b, represents the first cervical vertebra,
5, 5a, 5b, represents the second cervical vertebra,
6, 6a, 6b, represents the third cervical vertebra.

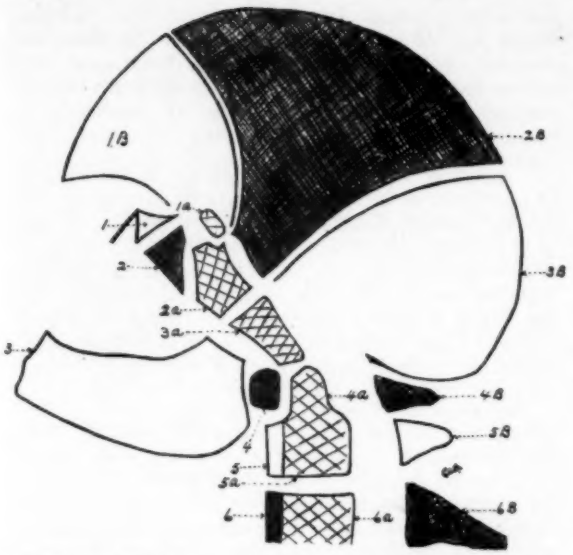


Fig. V.—Schematic diagram, ventrodorsal sagittal section, of the three cranial and the upper three cervical vertebrae. The space which is crosshatched is the notochord. The component parts of each alternate vertebra are shaded. The numbers are identified as follows: first cranial vertebra (1, 1a, 1b), second cranial vertebra (2, 2a, 2b), third cranial vertebra (3, 3a, 3b), first cervical vertebra (4, 4a, 4b), second cervical vertebra (5, 5a, 5b), third cervical vertebra (6, 6a, 6b).

The atlas does not show any crosshatching due to the fact that that portion of the notochord which otherwise would have formed the centrum of the atlas has become fused to the body of the axis. Dr. Weaver has in her files a very interesting series of x-ray studies of a case which has been diagnosed by many specialists as dementia praecox in which she found all clinical pathology referable to the base and upper two cervical segments, in which the series of x-ray films differentiates clearly an odontoid process which is in grossly bad alignment, shows the intervertebral disc between the odontoid process and the body of the axis to be extant, shows the odontoid process to be apparently fixed to the body of the atlas either by fine bony or fibrous adhesions, and shows defective ossification in the anterior bow of the atlas.

I have undertaken to prove that the following statements of Dr. Weaver are true: (1) that the base of the skull is formed of true morphological portions of true vertebrae; (2) that natural articulations exist in this plastic base, (in the German skull up to the ages of 12 to 15, in the French skull up to the age of from 15 to 17, in the English skull up to the age of from 17 to 19, according to the literatures of these countries; and in the American skull, according to the 25 years of research of Dr. Weaver, normally up to the ages of from 21 to 23, often to 30 and 35, and, idiopathically, throughout life.)

According to Dr. Weaver the centra of the three cranial vertebrae are:

centrum of cranial 1, dorsum sellae,
centrum of cranial 2, basisphenoid,
centrum of cranial 3, basiocciput.

These three centra and the petrous portion of the temporal bone which she identifies as the head, the neck and the two articular elements of the third cranial rib, the exoccipitals which she identifies as the pedicles of the neural arch of the third, the supraoccipitals which she identifies as the laminae of the neural arches of the third, the superior occipital which she identifies as the spinous process of the third, are the important movable portions of the plastic base.

It will be noticed that she speaks of the motility only of the *plastic* base. When and if the base ossifies it is no longer plastic. Her contention is that: (1) idiopathically the base fails to ossify; and also (2) idiopathically its attempts at ossification are so feeble that the spicules are readily broken through, causing the base to rebecome plastic; and (3) that in the American skull the base remains normally plastic throughout an ever increasingly longer period. And her reminder is that in the newborn, the infant, the child, the youth, the young man and young woman in all nationalities the base is normally plastic.

Riddle Block.

REFERENCES

1. Weaver, Charlotte: The Cranial Vertebrae. Jour. Am. Osteo. Assn., 1936, Part I (Mar.) 35:328-336; Part II (Apr.) 35:374-379; Part III (May) 35:421-424.
2. Keith, Arthur: Human Embryology and Morphology. Ed. 5. Edward Arnold and Co., London, 1933, Chapter VI.
3. Piersol, George Arthur: Human Anatomy. Ed. 9. J. B. Lippincott Co., Philadelphia, 1930.

(Drawings and identifications made by Dr. Charlotte Weaver.)

Osteopathic Treatment of the Common Cold*

A. D. BECKER, D.O.
Des Moines, Iowa

The common cold is defined by Kerr[1] as, "An acute disorder presenting its most obvious symptoms in the nasal passages, occurring most frequently in the fall and early spring in temperate climates and attacking great numbers of the population almost simultaneously."

Regarding statistical frequency, it is estimated, as a result of careful investigation by many observers, that adults in business and professional life average three colds each year with measurable loss in efficiency as well as actual loss of time. The common cold creates one of the serious problems among large employers of labor. The common cold, with its many possible complications, constitutes a real problem in economics. Colds among children are equally serious and frequently serve as the initial factor in the onset of many of the diseases of childhood.

The tendency to seasonal epidemics has long been recognized. In the fall, when people begin to live more indoors, there is a marked increase in the number of colds. In the middle of the winter with the severe weather conditions, and possibly associated with dietary irregularities of the holiday season, there is another marked increase in incidence. In the early spring, with the many sudden and marked changes in the weather and with the opportunity for exposure and wetting of feet, the chart line of incidence again rises sharply.

*Delivered before the General Sessions at the Forty-First Annual Convention of the American Osteopathic Association at Chicago, July, 1937.

The causative factors of the common cold may well be divided into two classes, primary and contributory. The contributing factors in etiology are numerous and varied. This fact has led to great confusion and has done much to make it difficult to arrive at definite and valuable conclusions in the field of sound prophylaxis and efficient treatment.

It is wise, at this juncture, to remember the highly vascular erectile tissues which are found as covering for the turbinate bones. The function of these tissues is to warm and humidify the inspired air in passage. Improperly prepared air is irritating and injurious to the mucous membrane of the trachea and bronchial tree and to the delicate tissues of the lungs. The blood supply and consequently the turgescence of these erectile tissues is under the control of the autonomic nervous system. The vasodilator nerves come from the parasympathetic system with the seventh cranial nerve and by way of the sphenopalatine ganglion. The vasoconstrictor nerves come from the sympathetics. The preganglionic origin of the latter is in the upper thoracic segments of the spinal cord and these fibers run to the superior cervical ganglion. From the superior cervical ganglion, postganglionic fibers are distributed to the mucous membranes of the nose and throat as well as to other structures of the head, face, and neck.

The primary etiologic factor in the common cold is the loss of physiological and anatomical integrity resulting in vasomotor imbalance and lack of ability instantly and efficiently to make adaptive changes necessitated by environmental requirements. This loss of physiological and anatomical integrity is due to osteopathic lesion pathology in the upper thoracic and upper cervical spine, which lesion pathology impairs functional capacity of the autonomic nervous system and produces consequent vasomotor instability and incapacity. It is a fact of great clinical interest that there is a very intimate physiological relation between the vasomotor innervation of the nasal mucous membrane and the vasomotor nerve control of the circulation in the skin of the entire body.

It will be possible to mention only a few of the contributory causative factors in this brief survey. The somewhat general conception of a cold is that it is an infectious disease and that it is highly contagious as the result of its being passed from one individual to another by intimate contact and by droplet infection. While this may well be true in some cases, there is much evidence that this is true only in the occasional case rather than being of common occurrence. Many research investigators disclose the fact that there is a basal flora of the nasal mucous membranes of normal and well individuals in which both pathogenic and nonpathogenic organisms are found, and that included among these organisms are various types of staphylococci, streptococci and pneumococci, as well as many others. More recent researches have shown that there is also a filtrable virus present in the nose and throat more or less constantly throughout the year. It is finally beginning to be appreciated, however, that these visible organisms and filter passing viruses are not the true primary cause of colds, but that they act as secondary invaders in the production of such complications as sinusitis, otitis media, pharyngitis, tonsillitis, laryngitis, tracheobronchitis and bronchopneumonia.

Another contributing causative factor of great importance is lack of adequate humidity in artificially heated homes, offices, and places of business. Such dehydrated air will absorb moisture where it finds it and thus dries out the mucous membranes of the nose, throat, and bronchi, leaving them irritable and in a condition of lowered resistance, thereby opening the way to secondary infection. Organisms do not thrive in normal tissues.

Modern air conditioning is apparently bringing an added causative factor into play in the problem of adaptation to environmental changes. It is the common experience of many who work in air-conditioned stores or offices that the sudden change to outside air of marked difference in temperature leads to the onset of colds.

Anything that will cause definite lowering of general resistance may well be included as an etiological factor. Prominent among such causes are fatigue, overeating with its attendant toxic phenomena, poor elimination, excessive worry and stress, and other debilitating influences.

Pathology and symptomatology may well be discussed together because the one explains the other. Again, quoting Kerr[1]:

> At the onset the nasal mucous membranes are drier than usual, and there is a sensation of irritation in the upper air passages. There may be headache and malaise. The subject complains of a general sensation of coldness or chilliness, the skin is cold and blanched and 'goose flesh' appears readily on exposure. The dryness of the nose gives way in a few hours to a copious secretion of irritating, watery discharge, accompanied by paroxysms of sneezing. At this stage, the mucous membrane of the nose, especially on the turbinates, is swollen and injected . . . for the first 24 to 48 hours fever rarely occurs, in uncomplicated cases. . . . After two or three days the irritating secretions become thicker and more cloudy because of the exfoliation of cells from the injured mucous membrane. . . . When recovery takes place, the general sensations of chilliness and lack of perspiration associated with a constriction of the peripheral vascular system give way to feelings of warmth and returning moisture to the skin. . . . The lack of lasting protection against subsequent attacks of the disorder is characteristic and unique.

I think the symptoms of a cold are sufficiently familiar to all and that we can afford to be brief in this phase of the discussion.

We are now prepared to discuss treatment in the light of our present knowledge. It will be well to subdivide our discussion and to consider the matter of treatment under three headings, as follows:

Specific treatment
Adjunctive treatment
Prophylactic treatment.

The specific treatment of the common cold of primary importance is osteopathic corrective manipulative treatment. To be of greatest value, such treatment should be instituted early, that is, in the first 12 to 24 hours following the onset of initial symptoms.

Careful and painstaking examination should be made of the cervical and upper thoracic spine and associated upper ribs to detect the presence of lesions both of the skeletal structures and of the soft tissues. All such lesions should be carefully evaluated and normalized. The ribs should be raised and the intercostal muscles thoroughly relaxed.

A careful examination should be made of the upper cervical and occipitoatlantal structures. It is important to free the temperomandibular articulations by springing the jaw, to be followed by gentle but insistent freeing of the anterior cervical muscles and fasciae. The clavicles should be raised and carefully articulated at both sternal and acromial ends. Such treatment restores vasomotor tonicity to the mucous membranes of the nasal cavity and paranasal sinuses and favors venous and lymphatic drainage from the head and neck. The tissues at points of emergence of the fifth nerve on the face (supra and infraorbital and mental foramina and in the substance of the temporal and masseter muscles) should be thoroughly relaxed for reflex tonic effects and for the relief of incidental discomfort.

Thorough relaxation and normalization of the lower thoracic spine, the thoracolumbar junction, and the entire lumbar spine with deep and gently insistent springing of the lower thoracic region promotes elimination and is of profound importance in restoration of vasomotor tonicity to the abdominal and pelvic blood vessels, and in bringing the blood volume into the superficial blood vessels in the skin.

Such indicated osteopathic treatment, if instituted early, will abort a cold in many cases. If the patient comes under treatment after the first 24 hours, the treatment should be repeated daily for at least three days or longer, depending upon the response of the patient and the extent and severity of the involvement.

Adjunctive measures offer much of value. Rest, taken by itself, is a valuable treatment. Economically it may not be possible to put every patient to bed for 24 hours, but long nights in bed and abstaining from all avoidable effort is next best. The following measures are recommended:

Free fluid intake. (Ten full glasses of water during the first twelve hours.)

Light diet. (Composed of foods which leave an alkaline ash, as citrus fruit juices, baked apple, vegetables which are 95 per cent water, watermelons or muskmelons in season, whole milk, baked white potato, etc.)

Hot tub bath on going to bed, keeping the body immersed for ten to fifteen minutes, followed by brisk toweling.

A two-quart enema, for adults, especially where elimination is slowed.

With babies and little children, the membrana tympani should be inspected daily for any evidence of otitis media.

Osteopathic lymphatic pumping treatment to activate lymphatic circulation and to relieve stasis and congestion.

Hot mustard foot bath. (This acts as a revulsive agent and tends to relieve congestion in the head.)

DON'TS TO BE OBSERVED IN THE TREATMENT OF COLDS

Don't take a physic. There is no better way to lower general resistance.

Don't take the chlorine treatment. It has not proved to be the effective agent the early enthusiasts anticipated.

Don't depend upon vaccines. Kerr[1] says, "There is nothing specific in their action."

Don't use sprays or other applications in the nose. Carter[2] says, "Sprays and local applications have little or no curative value and there is no internal medication that can be relied upon to cure or even limit the duration of a bad cold once it is fully developed. As regards sprays . . . regardless of the medicament therein contained, they spread infection into the sinuses, the trachea, and bronchi." He further says in the same article, "So far as known there is no drug or medication of any kind that will cure a cold."

Don't forcibly blow the nose at the same time stopping up the nares with a handkerchief or tissues. There is such a thing as handkerchief deafness. If you must blow your nose, blow gently and leave the nostrils freely open.

PROPHYLAXIS

Osteopathic manipulative treatment to maintain normal blood supply to the upper respiratory tract. (Such treatment increases local resistance against secondary infection and improves the trophism of the tissues. One cold does not protect against succeeding colds, but rather seems to predispose to succeeding ones.)

Maintenance of normal relative humidity in artificially heated rooms. (Many people labor under the mistaken impression that by having fresh air coming into the house through windows and ventilators, they will increase the humidity of heated rooms. This is not so. There is only one way to restore moisture to heated air and that is by re-evaporating water into the air. Relative humidity should be 50 to 55 per cent. In many homes it is only 15 to 25 per cent. The only moisture in many of these homes is the steam from the tea kettle and emanations from the bodies of persons in the home.)

Moderate exercise in the open air.

Avoidance of excesses in eating, exercise, or other activities.

Adequate sleep in well-ventilated rooms. (The only bad night air is last night's air.)

Adequate water intake. (At least five full glasses a day independent of fluid taken at meals.)

Avoidance of dressing too warmly as well as wearing insufficient clothing.

Relaxation between periods of stress and tension.

Activation of skin by daily rough toweling.

722 Sixth Ave.

REFERENCES

1. Kerr, William: The Common Cold. Jour. Am. Med. Assn., 1936 (Aug. 1) 107:323-326.

2. Carter, William Leslie: The Common Cold. Amer. Med., 1932 (Apr.) 38:141.

Cincinnati in 1938

Begin Planning Now to Attend Forty-Second Annual Convention

Well has it been said that "neither the truth of our principles, the efficiency of our practice, nor that it meets the world's needs, makes us a profession." Unity of action in an organized capacity alone makes us that. It is such an organization that gives character to the body of truths we teach; that creates standards of educational proficiency; that gives force and form to our legislative needs; that fosters original research and publishes the output of the best thought of the profession; that curbs commercialism and restrains the hurtful initiative of the individual; that plans to give such publicity to osteopathy that no amount of subterfuge and misrepresentation can rob us of that public confidence and support to which truth and justice entitle us.

No more modern words than those just quoted could be written. They are from the presidential address of Dr. J. L. Holloway, delivered before the American Osteopathic Association a quarter of a century ago. They picture exactly the spirit in which the osteopathic profession at Cincinnati is planning the 1938 convention and the spirit in which the American Osteopathic Association is looking forward to that splendid meeting.

Year by year our national conventions have reached new high points of professional endeavor. Year by year it has been surprising to note how symmetrically the profession has moved forward.

The words of the president twenty-five years ago are true today—every one of them. The principles upon which osteopathy was built sixty years ago are true today—every one of them. There are new applications of Dr. Holloway's words just as there are new applications of Dr. Still's principles, but fundamentally osteopathy stands upon the same foundation stones as of old.

Last month we discussed the newly organized Section on Osteopathic Manipulative Therapeutics which aims to collect, analyze, and interpret manipulative data clinically, and also to bear down upon the osteopathic approach. Its object is to make the profession more conscious of the importance of structure, both as to structural detail and the unified activity of the whole organism.

That is essentially the foundation on which Dr. Tilley is building a diversified program in which osteopathic fundamentals will be stressed, specialties will have their place, the Associated Colleges, the Associated Hospitals, and other groups will fit into their respective niches. Every one who attends will have placed before him an osteopathic feast greater than he can possibly ingest and assimilate.

The Cincinnati convention will be symmetrical not only as regards the scientific program. It will be symmetrical also in that it will appeal to the social and the aesthetic tastes of those who attend.

Cincinnati is not just another Ohio river town. Cincinnati is the Queen city. There are available beautiful highways, interesting water trips, entrancing parks and other outstanding entertainment and educational features, such as libraries and great radio stations.

For those who wish to combine a convention trip with a vacation there are interesting places near by in Ohio. Across the river in Kentucky there is a most interesting mountain country, the Mammoth Cave and many other great subterranean caverns, the birthplace of Abraham Lincoln, the home of the writer of "Home, Sweet Home." West Virginia, with its interesting mountains, is just across the border and not so far away, and Tennessee with the Great Smokies demands only a few hours drive.

From whatever angle one may view a convention he must be attracted to Cincinnati. Year by year and step by step our conventions have improved. Nineteen thirty-eight will set new high marks and no reader of these lines can afford to miss being a part of it.

CINCINNATI 1938 CONVENTION COMMITTEE

Since the publication in the September issue of THE JOURNAL of the 1938 A.O.A. Convention Executive Committee members, the line-up has been revised as follows:

GENERAL CHAIRMAN—J. Collin Kratz.
HONORARY GENERAL CHAIRMAN—James O. Watson.
ASSISTANT GENERAL CHAIRMAN—Chas. A. Ross.
ASSOCIATE GENERAL CHAIRMAN—Gertrud Helmecke.
PROGRAM CHAIRMAN—R. MacFarlane Tilley.
ASSISTANT PROGRAM CHAIRMAN—Stephen J. Thiel.
SECRETARY—A. Clinton McKinstry.
TREASURER—Carl W. Sweinfurth.
FIRST VICE CHAIRMAN (Facilities)— Walter H. Siehl.
SECOND VICE CHAIRMAN (Entertainment)—J. W. Mulford.
THIRD VICE CHAIRMAN (Clinics)—Leon G. Hunter.
FOURTH VICE CHAIRMAN (Transportation & Information)—Robert C. Hill.
FIFTH VICE CHAIRMAN (Public Relations)—Tom V. Canfield.
SIXTH VICE CHAIRMAN (Finance)—Clara Wernicke.
SEVENTH VICE CHAIRMAN (Allied Societies)—Albert O. Corrodi.

Skyline of Cincinnati, Ohio river in foreground

THE JOURNAL OF THE
AMERICAN OSTEOPATHIC ASSOCIATION

Published monthly by the American Osteopathic Association

Publication Office, 1140 Lake Street, Oak Park, Ill.
Editorial Office, 540 N. Michigan Ave., Chicago, Ill.
Address all communications to the Chicago Office
Cable address: "Amerosteo"

RAY G. HULBURT, D.O.....Editor
R. E. DUFFELL, D.O.....Assistant Editor
CLAYTON N. CLARK, D.O.....Business Manager

EXECUTIVE COMMITTEE

PRESIDENT.....EDWARD A. WARD, Saginaw, Mich.
PRESIDENT-ELECT.....ARTHUR E. ALLEN, Minneapolis
PAST PRESIDENT.....JOHN E. ROGERS, Oshkosh, Wis.
FIRST VICE PRESIDENT.....GERTRUD HELMECKE, Cincinnati
CHAIRMAN PROFESSIONAL AFFAIRS.....P. W. GIBSON, Winfield, Kans.
CHAIRMAN PUBLIC AFFAIRS.....A. G. CHAPPELL, Jacksonville, Fla.
EXECUTIVE SECRETARY.....R. C. McCAUGHAN, Chicago

Subscription . . . . . Five dollars a year in advance

Vol. 37 November, 1937 No. 3

THE SULFANILAMIDE FIASCO

Some newspapers call it a "magic bullet"—perhaps because it is easier to say or to read than sulfanilamide. But it may be just as treacherous by one name as by the other.

Sulfanilamide, which by the way, is the moniker given by a self-constituted authority—the Council on Pharmacy and Chemistry of the A. M. A.—to all proprietary names for para-amino-benzene-sulfonamide, originated in Germany. Domagk,[1] experimenting with asosulfamido compounds, demonstrated that one of them, the hydrochloride of 4-sulfamido-2, 4 diaminoazobenzol, had a bactericidal effect on hemolytic streptococci in mice. With characteristic American enthusiasm, this drug was hailed as a new medical discovery by American doctors. American drug houses began to manufacture it for them. Reports of remarkable results obtained with the drug in human streptococcic infections appeared in scientific journals.[2] The Council on Pharmacy and Chemistry of the A. M. A., perhaps against its better judgment because there was much to be learned about this new drug, "voted to accept sulfanilamide for inclusion in New and Nonofficial Remedies as a therapeutic agent for the treatment of infections by hemolytic streptococci of Lancefield's serologic group A."[3]

But its use did not stop there. Infections due to gonococci, meningococci, and type III pneumococci[4] were reported to be responding to sulfanilamide therapy. Benefit was said to accrue in most urinary infections. But as the use of the drug widened to include infectious arthritis, acute rheumatic fever, and the virus infections,[5] the results were indifferent.

Soon, however, reports began to trickle into the journals of certain dangerous effects following the use of sulfanilamide, such as sulfhemoglobinemia and methemoglobinemia,[6] granulocytopenia,[7] and hemolytic anemia[8] as well as less dangerous, yet disconcerting, effects, among which were lassitude and dizziness, nausea, headache, abdominal discomfort, cyanosis, acidosis, optic neuritis, and skin eruptions.

Then came tragedy. A proprietary elixir of sulfanilamide,[9] is reported to have snuffed out half a hundred lives—in southern and midwestern states—nobody knows how many more which were not properly diagnosed or reported. This is but the latest of many similar tragedies. One by one, drugs have been heralded as positive cures for this or that condition, or even, as in the case of this latest, as virtual cure-alls. When first introduced they are widely acclaimed. Then careful observers begin to note that they do something else to the body which was not intended. Disastrous results have been experienced in many instances and the drug finally labeled as positively harmful.

Not so long ago, dinitrophenol was all the rage, as a reducing agent. It reduced not only the fat of the body, but also the white cells in the blood—with a frightful toll of suffering and death.[10]

Amidopyrine or pyramidon, another drug which has been used widely for its analgesic effect and for the reduction of fever, has also been labeled as dangerous to the blood cells of the body. Nevertheless, it is still sold over the drug store counters in the United States, but in England its sale to the public is unlawful except on medical prescription.[11]

Louis C. Chandler, D.O., in his article, "The Menace of New Medical Discoveries," published in this issue of THE JOURNAL, lists many other drugs whose side-reactions have produced liver and kidney disorders, nerve and blood disorders, embolism, avitaminosis, and a host of other conditions.

Is there significance in the medics' repeated warning that such a drug as sulfanilamide must be taken only on a physician's prescription? Or do they say this with their tongues in their cheeks? The *Tulsa* (Okla.) *Tribune* for October 15, in a front page story, quoted Carl Arnold, President of the Tulsa Retail Druggists Association, as saying: "Members of our association. . . have cooperated with us and the doctors, in not selling the drug over the counter unless a prescription is furnished by the purchaser."

But even if a prescription is furnished, is the average physician capable of judging whether the

1. Domagk, G.: Ein Beitrag zur Chemotherapie der Bakteriellen Infektionen. Deutch. Med. Wchschr., 1935 (Feb. 15) 61:250-253.

2. Long, Perrin H., and Bliss, Eleanor A.: Para-Amino-Benzene-Sulfonamide and Its Derivatives; Experimental and Clinical Observations on Their Use in Treatment of Betahemolytic Streptococcic Infection. Jour. Am. Med. Assn., 1937 (Jan. 2) 108-32-37.

3. Council on Pharmacy and Chemistry: Sulfanilamide and Related Compounds. Jour. Am. Med. Assn., 1937 (May 29) 108:1888-1890.

4. Long, P. H., and Bliss, Eleanor A.: The Use of Para-Amino-Benzene-Sulfonamide or Its Derivatives in the Treatment of Infections Due to Betahemolytic streptococci, pneumococci, and meningococci. South. Med. Jour., 1937 (May) 30-479-487.

5. Public Health Reports: September 3, 1937; reviewed in Jour. Am. Osteo. Assn., 1937 (Oct.) 37:76.

6. Paton, J. P. J., and Eaton, J. C.: Sulfhemoglobinemia and Methemoglobinemia After Sulfanilamide. Lancet, 1937 (May 15) 1: 1159-1162. Reviewed in Jour. Am. Med. Assn., 1937 (July 24) 109:316.

7. London Correspondent: Toxic Effects of Sulphonamide. Jour. Am. Med. Assn., 1937 (Aug. 14); reviewed in Jour. Am. Osteo. Assn., 1937 (Oct.) 37:76.

8. Kohn, S. E.: Acute Hemolytic Anemia During Treatment with Sulfanilamide. Jour. Am. Med. Assn., 1937 (Sept. 25) 109-1005-1006.

9. Editorial: Deaths Following Elixir of Sulfanilamide—Massengill. Jour. Am. Med. Assn., 1937 (Oct. 23) 109: 1367.

10. Bohn, S. Stephen: Agranulocytic Angina Following Ingestion of Dinitrophenol. Jour. Am. Med. Assn., 1934 (July 28); reviewed in Jour. Am. Osteo. Assn., 1934 (Oct.) 34:105.

11. Simon, Sir John: Amidopyrin Scheduled as a Poison. Lancet, 1936 (Feb. 22); reviewed in Jour. Am. Osteo. Assn., 1936 (Apr.) 35:391.

drug prescribed is or is not dangerous? Apparently he is not, according to a particularly vitriolic editorial in *The New Orleans Item* for October 23. The writer says, in part,

> The extent to which most physicians take the qualities of a good many of their medicines on trust is aptly illustrated by the case of a county health officer in Mississippi who is now very prominent in the news.
>
> "A reputable drug firm" recommended him to an "elixir of sulphanilamide." On this assurance of its merits he fed it to a dozen of his patients. Six of them died. His own nervous system is jarred by this and by his fears of what may happen to the other six. He could not imagine why the first six died until a cause was suggested by a telegram from the drug firm, warning him too late that the elixir was poisonous."

The editorial goes on to say:

> Most physicians have some acquaintance with established and standardized medical materials that are described in official pharmacopeias and formularies. Few or none of them really know anything about the great volume of new preparations that "reputable drug firms" are continually thrusting on them by advertisement in medical journals, imposing circulars, and visiting salesmen. . . . Their claims are often well founded, but they also very often turn out to be hokum.

There is scarcely a major medical convention these days without extensive ballyhoo for some new elixir of life—something that within a year or two either kills a lot of people and is discredited, or simply "peters out" to make way for the next wonder. Each in turn is dressed up in such a way as to have compelling human interest and thus to wheedle out of the newspapers and magazines of the country a lot of publicity for a convention and a group whose activities otherwise would rate zero in the news.

Writers and editors are largely helpless because they accept their tips from those whom they have always been taught to regard as the last word in scientific medical knowledge and in ethics. No matter how often they have been imposed upon, from the days of turtle serum for tuberculosis down to dinitrophenol and sulfanilamide they still have no way of knowing where else to turn.

The temptation for a medic to take advantage of such a story to get publicity for his profession is understandable, and perhaps well-nigh irresistible. On the other hand, ethical and humanitarian considerations should impel him to wait at least until the great "discoveries" are thoroughly tested and proved so that, along with such advantages as they may have, their perils also may be understood.

It is true that medical organizations for long have tried to measure and evaluate these new remedies. All such efforts have failed.

Do not these things mean that the whole system under which we have been working is a mistaken one; that we lean upon a broken reed when we trust the ballyhoo artists of organized medicine and the drug manufacturers to tell us about the advances in a knowledge of drugs and their uses? The fact that the system has failed us and is failing us justifies demand for a strong federal pure food and drug law which would place the study and evaluation of such products as prescription drugs and their ingredients in the hands of impartial government officials who should be given the same power of censorship they now have over patent medicines. It would seem logical to the average man to prefer such a system to the present insecure state of affairs under which an enthusiastic doctor can report a few cases (particularly if he can use the drug on a prominent individual, such as the son of the ruler of a nation) and thus make it popular over night, before it has been tested to determine whether there may be very harmful reactions in addition to any beneficial ones.

We are sorry for the physicians who made the unfortunate mistake of prescribing a new drug about which they knew very little, but, as expressed succinctly by Henry Tete, D.O., when the legislative mills under the influence of allopathic lobbyists begin to grind out laws inimical to osteopathy, the guardians of osteopathic interests cannot refrain from comparing the methods of osteopathic physicians [and this profession is not and never was a drugless school of practice] which are based essentially upon stimulating the body's own natural immunity, with those of the dominant healing profession which aim to cure disease by the administration of drugs—in some instances drugs which are new and which jeopardize the safety of the patient because they have not been thoroughly investigated.

R.G.H. and R.E.D.

TO ADVANCE OSTEOPATHY

A question which has bothered me considerably is this: "Why it is that some members of our profession, when beginning practice, prefer to announce themselves as John Doe, physician and surgeon, instead of John Doe, osteopathic physician and surgeon?" Certainly the reason cannot be an economic one, because when a individual calls himself a "physician and surgeon" he immediately enters into competition with 125,000 M.D.'s in this country and its territories. Whereas, if he uses the descriptive word "osteopathic" in his title, he would be competing, at most, with less than 10,000 osteopathic physicians.

The answer to this question is probably this: A part of the public, at present, feels that an osteopathic physician is limited, not only in training but also in ability. Because of this some of the young members in our profession, lacking the experience on which to base confidence in osteopathy, develop an inferiority feeling which they seek to overcome by omitting the descriptive adjective "osteopathic." This is obviously wrong and steps have already been taken to combat this inferiority feeling. The Committee on Public and

Professional Welfare has been organized for the very purpose of overcoming misunderstandings of osteopathy on the part of the public. But we, as a profession, have our part to do as well.

Certain standards of education are now considered more or less essential by the public to insure proper training for physicians and these standards have been embodied in state laws. Although not formulated by laws, standards just as definite have been established by the public concerning how a physician should dress, talk, and act, and how his office should appear. Neatness and cleanliness of the physician and his office are good indications of the character of the physician himself. The proper professional appearance will do much to counteract wrong impressions which may exist in the minds of the laity.

It is generally stated that the practice of allopathic medicine is overspecialized today. While this state of affairs may work a hardship on the public in some instances, it will not greatly affect the general development of the science, because research is maintained as a separate institution and will continue to function regardless of how allopathic practice is conducted. With the science of osteopathy, however, overspecialization would shortly prove fatal to the development of the osteopathic concept, because of necessity, our research has been chiefly clinical, carried on in our colleges and in the offices of our general practitioners. Therefore, until we have accumulated sufficient funds to develop extensive laboratory research, we must continue to carry on clinical research through the medium of general practice. Consequently each specialty group which has not already done so, should discuss thoroughly and carefully the advisability of establishing high standards on a prerequisite to membership in its ranks. This not only will assure the public the best type of service, but also will greatly enhance the reputation of our specialists.

We have a small number in our ranks, engaged in general practice, who place their chief reliance on drugs to correct abnormal function and use osteopathic therapy as a minor adjunct, if at all. These physicians term themselves advanced and liberal thinkers. I disagree with this idea completely. How can the practice of a therapy as ancient and resistant to change as drug practice be considered liberal? That drugs have their place, no one will dispute. Results of osteopathic practice today are determining that place. We should not deceive ourselves with the thought that the use of drugs is the sign of advanced thinking. The individual who is willing to step out into the new and undeveloped field of osteopathic philosophy, the individual who places chief reliance on osteopathic theory and practice, that individual is the *advanced* and *progressive* thinker. If this small group still wishes to follow the example of the allopathic profession, it should take up the very newest and most advanced type of therapy that medicine is adopting today, the practice of body mechanics. *We know it by the name of osteopathy.*

Arthur E. Allen, D.O., President-Elect
American Osteopathic Association

A CHALLENGE INDEED

A young osteopathic physician decided to write a history of osteopathy. As one result of his experiences in collecting information, he says:

> There is, I fear, too great a tendency on the part of us younger people not to realize the sacrifices made and the hardships undergone by those who blazed the trail we are following so much more easily today. At least I myself took too much for granted until I commenced to dig seriously into the history of the early days of osteopathy.

It is true that those who study the history of Andrew Taylor Still and his immediate followers must be thrilled, inspired, and challenged. Likewise those who commune with the most recent generations of osteopathic physicians find themselves in a company of heroes.

An osteopathic pioneer of the '90's could go out in the spirit of what has been called "rugged individualism," and build an osteopathic practice on merit alone. It is true that he faced ignorance, prejudice, misrepresentation. It is true that the professional competition which he had to meet was often in the person of antiquated M.D.'s who had learned what they knew of medicine by the apprentice method.

The doctor of today still faces ignorance, prejudice, misrepresentation, but the doctors who now represent a rival school of practice are, in the main, from high-grade professional colleges. They do not live as individuals. They are supported by an efficiently organized machine for educating the public and bringing practice to them. This machine depends upon funds from the M.D.'s themselves, from pharmaceutical houses, from community chests, from philanthropy, from local, state and Federal taxes.

Against this seemingly insurmountable array of forces the young osteopathic physician still finds it necessary to depend to too great an extent upon one weapon—the merit of osteopathy combined with his own personality. Are the young pioneers of 1937 equal to the struggle? Are they made of the same stern stuff which went into those of forty years ago? An affirmative answer comes to light every few days. For instance:

The American Osteopathic Association voted at Chicago, by more than two to one majority in the House of Delegates, that dues shall be $20 a year beginning in June, 1938. Since that vote was taken, comments have come to the Central office from members in 21 states and Canada.

Not a half dozen of these have expressed any feeling of personal injustice or resentment. Several feared that harm would be done because of the burden that would be placed upon others—these did not complain for themselves. One member who graduated nearly 40 years ago and who says he is busy from early morning until late at night feels that those in the cities "get much higher fees than those who work harder in small towns and who will drop out or refuse to pay dues at the high rate."

Let us compare his fear with the actual spirit of the youngsters in the small towns, as shown in the unsolicited letters which have come in. Two-thirds of the favorable letters are from west of the Mississippi. Sixty per cent are from the four states of Kansas, Oklahoma, North Dakota, and Montana, where a series of dry years and dust storms are supposed to have made life almost unbearable. Sixty per cent are from towns of less than 10,000 population, one-third from towns of less than 5,000. Perhaps most significant of all is the fact that sixty per cent of the unsolicited letters favoring the action taken by the House of Delegates are from youngsters who graduated since 1929—beginners who never saw a day of osteopathic practice except during the depression years. Fairly typical of these letters is one from a new man in the drought-ridden, dust-swept, midwest who had $1.47 in total assets when he landed in that state to practice osteopathy. He said:

> In the past it has been difficult to raise the necessary $10, but probably it will be no harder to get $20 next year than $10 this time. I have about all my debts paid except those for my schooling, and I'll begin on them in the next few months, barring some unforeseen calamity. I believe that the increase in dues is all to the good. True, it will make it a bit tough on a few youngsters like myself, but in the main the old heads will be able to carry on and the younger ones, if interested much in their profession, will get it some way, although they may not always get it in by the due date. I do not see how the Central office workers are able to carry on so much work with the old fee. They probably need a lot more. I feel that we are fortunate in having people in that office who are able to give so much for so little. My congratulations and deeply felt appreciation for the work you are doing for us in the field. I feel no inferiority in the osteopathic profession. We are inferior only in political influence. When it comes to diagnosis and therapeusis, we're inferior to no one. Maybe the increase in dues will help, in some ways at least, to offset the advantage now held by the older profession. If so, we shouldn't kick about the yearly dues.

Another man whose first year in practice has just ended (at $2 for membership), who is now in his second year in practice (at $5 for membership), and who must quadruple this year's dues to be a member next year, says:

> You know these dollars are rather hard to round up. If it were for anything else, it would be impossible. I think the money well spent.

The flag of osteopathy is in the hands of older men and women. Some of them are inclined to sigh for the brave days of old. They need only look to the beginners—to those who 20 years from now will be the leaders—to realize that the brave days are still with us. For those beginners, in turn, the brave days are just beginning. Perhaps for osteopathy as a whole a new campaign is getting under way, as real and vital as that of 40 years ago.

It is true that it will be hard for many of the new people, and for some of the old ones to pay their dues in 1938. Always it has been hard for some. Always there will be some for whom it is hard. But it is yet seven months from the date of this JOURNAL until the dues are payable again. Ten cents put away each day will more than cover the amount. Seventy cents a week will still leave a little margin. Three dollars a month will be more than enough. Let each one now make up his mind whether he can readily pay it when due without further preparation. If not, let him make his budget. In Illinois, the so-called Jayne plan provides for saving a dollar a week, which covers national, state and local dues, with a little margin. In Georgia the newer "Thin Dime Club" goes on a daily basis. In most states this will cover all dues.

The world is different today from that of the 1890's, but the need for protection against ignorance, prejudice, and misrepresentation is just as great as it was then. Organization is the protective bulwark, built up by membership dues and wholehearted service.

NOT TO BE WASTED

For most of us the Chicago convention ended in July. Not so for the convention committee. Its affairs were wound up on October 27—so far as the convention was concerned. But so impressed were the members with the power of organized enterprise that they voted to continue as a committee for the advancement of osteopathy in Chicago.

The first major activity to which the committee is turning its attention is the Annual Osteopathic Charity Ball, tentatively scheduled for the early part of February. At the invitation of the trustees of the Chicago College of Osteopathy and the Chicago Osteopathic Hospital the committee has undertaken to act as an advisory board for those two institutions.

Each year some leading city of the United States entertains the American Osteopathic Association. Each year the osteopathic physicians in that city work intensively and efficiently toward one object—the staging of a successful convention. It is a difficult and challenging task. By the time it is over the members of the committee are thoroughly convinced that they don't want to tackle another convention for a long time, but there are many other tasks which are pressing to be done, and a committee having had this intensive training in cooperation should undertake them with great success.

CRANIAL VERTEBRAE

THE JOURNAL this month carries the first paper in the symposium presented by a group of physicians who have been meeting each week for a year to study under the direction of Dr. Charlotte Weaver, at Akron, Ohio. It is Dr. Weaver's belief, as brought out in a series of articles which she began in THE JOURNAL in the spring of 1936, and as explained by her on many occasions before conventions and college groups, that all of the bones above the atlas are parts of three modified vertebrae, and that lesions in their intervertebral joints have definite results in both the mental and the physical life of the individual. Dr. Naylor's article this month lays the groundwork. It is hoped to follow it with most or all of the others which were given in the symposium presented at Akron on September 15, 1937.

Committee on Public and Professional Welfare

THOMAS R. THORBURN
Chairman
New York City

OPPORTUNITY—SYNONYM: DUTY

Some day it can be published.

A popular book—a medical novel—is to be put into pictures soon. Word goes to a contact man at Hollywood who receives assurance from those in a position to promise, that nothing derogatory to osteopathy will appear on the screen. Obviously, in such a case, details cannot be published.

A very damaging reference to osteopathy crops up in a new novel. A contact man in New York personally sees the publisher and receives assurance that the plates will be corrected. Obviously publication would simply serve as an advertisement of a damaging book, so details cannot be published.

Incorrect descriptions of osteopathy are used in absolute good faith in reference works and a protest elicits a sincere invitation to cooperate in getting a correct statement. Obviously details must be kept quiet until a later date.

Thus day by day the work of the Committee on Public and Professional Welfare goes forward and often there are very important results which are never seen except to those on the inside because they simply neutralize potential damaging activities.

The positive, tangible, visible effects of the Committee's work are in evidence every day. Attention paid to the Chicago convention in newspapers and magazines went far beyond that of any previous convention. Press recognition for state conventions and local meetings is widespread and high grade. Radio activity is much in evidence. Visible education is going forward. Colleges and affiliated societies have benefited by the activities of the Committee. A widespread editorial contact system is in process of formation.

All of these things are of great importance in establishing the proper relations between the various parts of the osteopathic profession, and between osteopathy and the public.

All of them cost money. There are more than 8,000 osteopathic physicians in practice who have made no direct contribution to the work. Some 1,200 individuals have pledged or paid. Divisional societies, local societies, specialist societies, and other aggregations have contributed. Many individuals have paid $100 for this year and pledged the same for each of the next two years. One young doctor, not satisfied with pledging for three years, made a substantial pledge for five years. One man out of school only a year or two apologized for the smallness of his contribution because it was only $10 per year.

Readers who have not contributed should take the burden off the workers by asking for pledge cards or sending pledges or checks to the chairman in their respective societies, to the zone chairmen, or to Dr. Thomas R. Thorburn, chairman of the Committee on Public and Professional Welfare, 101 West 57th Street, New York City.

Those who have paid would do well to volunteer their services to the Committee and perhaps follow the example of a man who went out personally and secured the signature of every other osteopathic physician in his county.

So long as the efforts of the Committee must be directed toward the raising of funds, it cannot devote its full attention to the constructive work that must be done. Let us unite our efforts and complete the fund.

A few have believed erroneously that no financial campaign is contemplated for the future. Time alone will tell how much additional funds will come in as a result of the adjustment of dues which takes effect next June, but it cannot be enough to do the research and public relations work which is necessary. Pledges for a three-year term are still in order.

R. G. H.

Department of Public Affairs

A. G. CHAPPELL
Chairman
Jacksonville, Fla.

LEGAL AND LEGISLATIVE

WALTER E. BAILEY
St. Louis
Legislative Adviser in State Affairs

Kansas

Dr. B. L. Gleason, Larned, Kansas, points out that the report in THE JOURNAL for October (page 73) did not exactly state the grounds of the case brought against him in the State Supreme Court. He is charged with practicing medicine and surgery without a license from the Kansas Board of Medical Registration and Examination. It is admitted that he is licensed by the osteopathic board but, Dr. Gleason says, the contention is that osteopathic colleges do not teach surgery or pharmacology and therefore osteopathic licentiates are not permitted to practice any medicine or surgery.

COMMITTEE ON SPECIAL MEMBERSHIP EFFORT

F. A. GORDON
Chairman
Marshalltown, Iowa

MEMBERSHIP STATUS

A few states now have laws requiring a minimum amount of postgraduate work annually on the part of all who practice osteopathy, the provisions of the law being such that nearly all osteopathic physicians in such states join their divisional societies to get the required work. As a result, the profession in these states in particular is becoming increasingly membership conscious. But this feeling is not confined to the few states referred to. Probably the majority of active practitioners today would have reacted to such a law in the same manner as most of those who were formerly nonmembers and who found attendance at the recent Missouri state convention in Joplin, the best way to meet the requirements. The collective attitude of this Missouri group was that the law is a good one.

For the most part membership delinquency is due to procrastination. As a member of this Association you can aid our progress by reminding a previous classmate or osteopathic colleague that "we put our money where our interest is."

The percentage of increase in membership from the beginning of the fiscal year to October, 1936, was 5.0, while for the corresponding period this year it is 6.9. With approximately 500 more members now than on this same date last year, we have about 1 per cent less members delinquent in their dues payments. The membership is growing not only larger, but also more stable.

HONOR ROLL

At no time during the past three years has there been such evidence of the widespread interest in membership development, as during the past thirty days. But, as usual, effort has greatly exceeded returns. Please be assured that your contributions of time and effort are genuinely appreciated, but allocation of credit is impossible unless applications bear the names of those who secure them.

Since August 1, 1937, state and A.O.A. memberships have been returned through the cooperation of:

California
E. T. Abbott
Charles L. Baker
C. B. Rowlingson
Idaho
O. R. Meredith
Indiana
Kate Williams
Iowa
J. M. Woods
W. C. Chappell
P. O. French
D. E. Hannan
A. D. Craft
H. D. Wright
Mary E. Golden
Jack Berck
Grace Nazarene
F. A. Gordon
Kansas
P. W. Gibson
Michigan
E. A. Ward
E. M. Schaeffer
Leroy C. Johnson
Missouri
Geo. J. Conley
Margaret Jones
Herman Shablin
G. E. Darrow
B. S. Jolly
A. E. Vaughan
O. G. Weed
O. L. Dickey
J. L. Jones
New Jersey
Lois S. Goorley
Chester D. Losee
Ohio
P. E. Roscoe
Pennsylvania
Geo. J. Moeschlin
Tennessee
Helen Terhuwen
Texas
J. R. Alexander
West Virginia
Robert B. Thomas

MEMBERSHIP GAIN SINCE AUGUST 1, 1937

Analysis of the net gain of 179 from August 1 to October 1, shows that twenty-seven divisional societies registered net A.O.A. membership gains sufficient to offset slight losses in six divisional societies, and to advance the total membership figure 3.4 per cent.

GROUP A
(Societies of more than 200)

	Per Cent of Gain on Oct. 1, 1937
Texas	14.78
California	9.84
Pennsylvania	5.51
Kansas	5.47
Michigan	3.55
New York	3.20
New Jersey	3.07
Iowa	2.42
Missouri	1.83
Oklahoma	1.75
Ohio	1.32
Illinois	.56
Massachusetts	.48

GROUP B
(Societies of 100-199)

	Per Cent of Gain on Oct. 1, 1937
Florida	6.86
Colorado	6.84
Indiana	4.93
Maine	4.31
Wisconsin	1.05

GROUP C
(Societies of 50-99)

	Per Cent of Gain on Oct. 1, 1937
Connecticut	5.45
West Virginia	3.50
South Dakota	3.12
Georgia	2.94
Oregon	2.43

GROUP D
(Societies of less than 50)

	Per Cent of Gain on Oct. 1, 1937
Alabama	25.00
Utah	12.50
Idaho	4.34
New Mexico	2.64

Par membership obtained in Nebraska, Washington, Minnesota, Montana, Ontario, Tennessee, North Carolina, Rhode Island, England, New Hampshire, Wyoming, Arizona, Hawaii, Saskatchewan, Vermont, Louisiana, Maryland, South Carolina, Virginia, New Brunswick, Kentucky, Delaware, Quebec, Nevada, Mississippi, Manitoba, Alberta.

F. A. G.

BUREAU OF PUBLIC HEALTH AND EDUCATION

FRANK F. JONES, D.O.
Chairman
Macon, Ga.

RECOMMENDATION TO PRESIDENTS OF DIVISIONAL SOCIETIES

In the annual report of the Bureau of Public Health and Education to the Board of Trustees at the Chicago convention, the following recommendation was made:

"We would like to see appointments for these state chairmanships made for periods longer than one year, and then if these appointees could be gathered together at the national convention each year and instructed by experts, as we are planning to do this year in Chicago, the accomplishments of this Bureau would be more nearly in keeping with the hopes we have for it."

This recommendation was adopted by the Board of Trustees. We hope that ways and means may be found by which chairmen of public health and education bureaus in the divisional societies may be permitted to continue in office from year to year thereby keeping this particular phase of the work in the hands of persons who have had an opportunity to learn from their own continued experience.

F. F. J.

Foot Section

MECHANICAL DISORDERS OF THE FOOT

JAMES A. STINSON, D.O.
St. Petersburg, Fla.

In discussing mechanical disorders of the foot, we shall not consider those conditions caused by nervous or circulatory diseases of the leg and foot, those conditions caused by major bone pathologies such as fracture, infection or malignancy, or other conditions of a surgical nature. We shall assume also that the knee joints, the sacroiliac joints, and the spinal joints low down in the back are normal in every respect.

It is recognized that seldom, if ever, does a purely mechanical lesion exist without some involvement of circulation and innervation. Osteopathic lesions of the spine usually are palpable, as a result of reflex nerve irritation, within two hours after a fracture of the lower extremity. It is reasonable to assume, then, that every mechanical lesion of the foot will sooner or later affect the spine. Since the foot is but a part of the locomotive apparatus, it will share in any and all the troubles of this apparatus.

Dr. Still is reported to have said, "If we are to do any good to a foot, we had better get pretty well back toward the heel." Perhaps this is the first observation concerning the importance of the ankle joint to foot function. Apparently the followers of Chopart, the French surgeon who lived in the latter part of the eighteenth century and who was an authority on foot amputation, failed to see as much as that surgeon did of the foot mechanics involved. But it has been interesting to watch the increasing attention directed toward this joint by various observers during the past ten years. Our own literature contains much along this line,[1] the later editions of the standard anatomy textbooks contain an increasing amount of information,[2] and there have been several articles in surgical books and publications[3].

By far the most conclusive article on mechanics of the foot was written by the late Russel R. Peckham in 1927, as the result of cadaveric, x-ray, and clinical study at the Chicago College of Osteopathy. This article, "Some Anatomical Mechanics of the Foot," appeared in the January, 1933, issue of THE JOURNAL OF THE AMERICAN OSTEOPATHIC ASSOCIATION. It has been used as the background for this presentation.

In order to reach any sort of basis for understanding and classifying functional foot disorders, it is necessary to review briefly the normal mechanism of the human foot. If we disregard, for the moment, all of the confusing and conflicting things we have heard and read about the foot, we can take most of the mystery out of this subject. Perhaps students should be able to give a detailed description of the size, shape, ligamentous attachments and articulations of each of the bones of the foot, but all we are interested in at this time is the applied anatomy—how the thing works, and what causes it to get into trouble.

Two Functional Units.—Functionally, the foot is divided into two units [2a,b,c]: The medial side of the foot, including the great toe, the second and third toes, the three medial metatarsals, the three cuneiforms, and the navicular join with the talus in making up one functional unit.

The other functional unit [2a,b,c] is composed of the fourth and fifth toes, the fourth and fifth metatarsals, the cuboid and the calcaneus.

These two functional units, sometimes described as "longitudinal arches," parallel each other from before backward until they reach the posterior part of the foot, where the talus is superimposed on the calcaneus. Thus, although the "inner side" of each entire unit articulates with the other, the major control of all the joint action in the foot centers in the talocalcaneal articulation. Here is the real key to all foot mechanics.

The tremendous importance of this joint will be realized if we examine the ankle carefully. The lower ends of the tibia and the fibula are so shaped that if we look at them from below, they will be seen to form a socket. Into this socket, the talus must fit, and transmit weight.

Weight-Bearing.—While doing work, the foot bears weight. True, this weight-bearing is done in a different way for nearly every change in foot action. This becomes obvious when we study the foot in ordinary heel and toe walking, in running, jumping, turning, dancing, balancing.

In ordinary locomotion, most of the work is done by the medial side of the foot, the heel, and an area centering around the anterior end of the second metatarsal, 2a,c;1i;7. The lateral side is mainly concerned with balance, forming a broader base of support than that just mentioned in walking. The outside of the foot does more work when a person is standing.

Primarily, the work to be done is weight-bearing. When a person arises to a standing position, weight is transmitted down the leg and foot, and must be transferred from the vertical to the horizontal. In addition to handling this right angle transference of weight, there is provision for some lateroflexion and some rotation. These are composite motions between the foot and the ankle, and between the ankle and the leg.

The Talus.—The bulk of the work of changing the direction and distribution of weight falls on the talus. Interposed between the heel bone and the leg, its job is so to guide and direct the bearing of weight that the many varied movements of the foot can be accomplished efficiently. The talus fits down snugly on the calcaneus so that static weight-bearing is stabilized. Yet the slightest movement calls for action of some of its articulations. For dynamic weight-bearing, *the talus serves as a modified ball bearing.*

When one observes this bone, he sees that it is composed largely of articular surfaces. The entire upper part is a convex, half roller-shaped articular surface, fitting into the previously mentioned socket formed by the two malleoli. Both sides are smooth for gliding motion. The anterior end is an articular "head" around which the navicular, and through it the entire medial unit, must rotate. The inferior surface consists very largely of two or more articular facets for movement on the calcaneus.

Key Articulations.—If we examine the closely fitting articular surfaces of the inferior portion of the talus and the superior portion of the calcaneus, we find that the latter is composed of one large curved, roughly crescent-shaped convex facet. The articulating surface of the former is concave. From the size and extent of the calcaneal facet, it would seem to be capable of most of the gliding rotary motion of the joint. Medial and anterior to it, is a smaller concave facet (or commonly two small facets). While these do not present a large possible articular area, the larger facet seems to revolve about this smaller one, the latter serving as a center. Lesions of the smaller one, then, would do more mechanical damage, since they would modify the motion of the larger facet also.

Any alteration of mechanical functional capacity here, in this talocalcaneal joint, may be classified as a primary foot lesion, with many and varied compensatory lesions developing further forward in the foot 1g.

The roughened area between these facets of the talocalcaneal articulation is filled by the fibers of the interosseous ligament, said to be one of the strongest in the body. These fibers do more to maintain the structural integrity of the ankle than any of the external ligaments; and conversely, they will be more seriously involved when joint lesion puts them on stretch or tension.

Mobility Test.—By using both hands, and placing a thumb on either side of the anterior end of the talus, and a forefinger on either side of the posterior part, we can rock the foot a little and test for altered mobility on the two sides. There seems to be slightly more motion on the medial side in many feet than on the lateral side. But if there is any great degree of locking on either side, then there is mechanical difficulty farther forward in the foot.

MECHANICAL DIFFICULTIES

Posterolateral Lesions of the Talus.—Whenever this "ball bearing" bone (the talus) is not free to guide and direct motion and the distribution of weight, then there is some mechanical difficulty in some other part of the foot. If it is moved backward and laterally and locked, then there is trouble down the lateral side of the foot, for the calcaneus will be limited in motion, and "tortioned" in weight-bearing, its articulation with the cuboid will be impaired, and the lateral two toes embarrassed. True it is that here will be some difficulty down the medial side, for the navicular cannot utilize all of the articular surface of the head of the talus. But by far the greater difficulty will be on the lateral side of the foot—the lateral functional unit.

In the fresh, acute lesions of this type, standing is more painful than walking. And frequently the individual finds it possible to walk on his toes, but not to use the foot for static balance, nor with the heel down flat. This is the start of the "typical male flat foot."

Anteromedial Lesions of the Talus.—If the talus is moved forward and medially beyond its normal range of motion and locked, then there will be any or all of those things happening to the medial side of the foot which occurred to the lateral side of the foot in the lesion previously described. With this forward locking of the talus, there will be a change in the relationships of the navicular, the three cuneiforms, the three medial metatarsals, and the phalanges of the three medial toes. The entire medial functional unit side of the foot is in trouble.

Here again a distinction may be made in functional capacity: In the acute lesion of this type, the individual can stand better than he can walk; he plants his heel down flat, and experiences pain on trying to bear weight on the front part of the foot.

In review, then, we say that trouble down the medial side of the foot means that the talus has a faulty position on that side of the foot. Trouble down the lateral functional unit means that the talus has been locked on that side. This gives us an easy diagnostic method and tells us what to do to restore full function to the foot—we simply apply force to the talus to restore the full measure of mobility between talus and calcaneus, putting spot pressure on the talus on whichever side it is involved, while holding the calcaneus firmly.

There are, of course, combinations of these two general types of lesion and mixed with mechanical difficulties, there will be circulatory and nervous involvements. It is doubtful whether there is ever a single type of lesion. But for the sake of simplicity, both for diagnosis and for treatment, it is convenient to use the two general classifications. And a vast majority of all mechanical foot troubles will fall into these two groups.

Influence of the Fibula.—There is one other factor that must be considered in the mechanical arrangement of the foot. That is the fibular control of talocalcaneal movement. The tibia is a relatively greater weight bearer, and more fixed and stable than the fibula. The latter is bound to the tibia by the interosseous membrane and various ligaments at the superior and inferior ends. It has many tortion possibilities, however, and must rotate slightly on its longitudinal axis to allow for sidebending of the ankle. This is more marked in extension of this joint, such as occurs when standing on the toes, in rapid walking, and in running.

When its latitude of excursion is limited, it will, in turn, serve to limit the amount of motion of the talus, since it acts to guide and control, to some extent, all movements of the talus.

Lesions of the fibula vary with the sexes, and with the trauma that causes them. Seemingly, there are more anterior lesions among women, and more posterior ones among men.

Referring again to Dr. Peckham's article, we find that the proximal tibiofibular joint is the more important anatomically.

Fig. 1.—Lateral view of typical male "flat foot". Primary lesion shows talus posterolateral on calcaneus. Secondary lesions include "dropping" of navicular from anterior end of talus and of cuboid from anterior end of calcaneus.

Fig. 2.—Lateral view of typical female foot following the use of high-heeled shoe. Primary lesion shows talus anteromedial on calcaneus. Secondary lesions include medial rotation of navicular, "buckling" upward of cuneiforms, and the phalanges turned upward. Foot is everted.

The lower union is not a completely functional joint, and thus from the standpoint of lesion, and for purposes of adjustive technic, the upper one is usually considered primary.

When trauma, such as the "turning" of an ankle (or the so-called "sprain" or "strain"), [1,3] errors of locomotion, or faulty knee function, causes lesions of the fibular joints, the restraining ligaments and the interosseous membrane are on tension. Since most of the muscles that move the foot have some origin from the fibula or the interosseous membrane, we have a myositic type of structural difficulty in the foot, and a source of possible damage to the circulation and innervation below the knee. This is in addition to the mechanical difficulties centering about the talus.

FOOT TROUBLE

Whenever there is faulty motion (too much or too little) between the talus and the calcaneus, there is a mechanical difficulty in the rest of the foot. Painful foot, fallen arch, buckled arch, flat foot, metatarsalgia, arthritis, bunion, hammertoe, synovitis, bursitis—all of these terms mean trouble in the foot.

Now that we have an easily understandable outline of foot mechanics, let us see whether we can give a simple classification of foot troubles based upon structural lesions of the foot.

There are obviously two great groups of foot trouble: those on the medial side involving the great toe and those on the lateral side with trouble located more in the middle of the foot. One factor that aids in classifying these is the difference between the male and the female types of footwear. The high-heeled shoe of women, throwing weight on the posterior aspect of the upper surface of the talus, tends to drive the talus forward and medially.

The subsequent pathology that develops includes the distortions from short, narrow, and pointed shoes. We can follow this out, and see the mechanism of production of those everted feet, with buckled up arches, with the raised and sometimes ankylosed joints at the proximal ends of the first and second metatarsal bones; or if the shoe has been short and pointed enough, we can see the development of the typical bunion type of foot. Further pathological conditions include the more chronic distortions of arthritis deformans and oher rheumatoid disabilities, shortened tendons, Morton's toe, hammertoe, etc.

Attention is directed to the fact that this general type of distortion follows the same pattern as the acute anteromedial subluxation of the talus on the calcaneus, with the secondary lesions which follow down the medial side of the foot—the inverted navicular, upward buckling or downward displacement of the cuneiforms, tortion of the entire medial side of the foot. The so-called "third degree flat foot" is one in which the talus has moved anteromedially, and the navicular has dropped with the cuneiforms until it is on a level with the bottom of the calcaneus.

CLUB-FOOT (Talipes)

The various kinds of congenital club-foot start with a displacement of the talus, and in many studies are classified according to the degree of displacement [4,5c]. They present a pattern very similar to the "atrophic" flat foot, differing only in the growth changes, and the fact that the congenital club-foot has never borne weight.

It would seem to have been an unhappy thing for us, that more attention has not been directed toward the similarity of distortion between the various talipes, and the more common arch troubles. Talipes equinus resembles the commonly seen buckled up arch of women, the high-heeled shoe foot. Talipes varus is markedly like the typical male flat foot, while talipes valgus is similar to the combined lesion flat foot (congenital or atrophic flat foot).

Dr. John A. MacDonald has recently pointed out our utter failure to develop an osteopathic diagnostic terminology and procedure, based on the functional pathological conditions that we are able to treat with more or less success. By following the usual medical terminology and getting lost in a maze of conflicting allopathic literature on the subject of feet, we have lost an opportunity to rationalize our thoughts on foot disorders.

Certainly we could have a more readily comprehensible outline of mechanical foot troubles if we had emphasized the structural derangements between the forefoot and hindfoot. We cannot afford to lose much more ground here, for current allopathic literature is fast approaching this idea.

It will be interesting to see whether foot disorders are eventually classified and named as compensatory to one or the other of the talipes.

(To be continued next month)

REFERENCES

1a. Webster, George V.: The Relation of the Os Astragalus to Foot Disorders. Jour. Am. Osteo. Assn., 1934 (Jan.) 33:218-219.

1b. Rothmeyer, George S.: Foot Technic. Jour. Am. Osteo. Assn., 1934 (Feb.) 33:265-267.

1c. Halladay, H. V.: Ankle and Foot Injuries. Jour. Am. Osteo. Assn., 1932 (Apr.) 31:331-332.

1d. Clybourne, Harold E.: Building a Foot Practice. Published by the Author, 40 S. Third St., Columbus, Ohio, pp. 22-23.

1e. Bynum, H. R.: Four Fundamental Factors in Foot Correction. Paper delivered before the Tennessee Osteopathic Association convention in 1934, pp. 2, 7.

1f. Peckham, R. R., Stinson, J. A., and O'Neil, D. M.: Pictorial of Appendicular Technique. Published by J. A. Stinson, 601-2 Times Bldg., St. Petersburg, Fla., 1934, pp. 1, 2.

1g. Halladay, H. V.: The New Nomenclature. Jour. Am. Osteo. Assn., 1936 (Jan.) 35:238-243.

1h. Ellis, William: Foot Manipulation. Published by the Musebeck Shoe Co., Danville, Ill., p. 5.

1i. Downing, Carter Harrison: Osteopathic Principles in Disease. Ricardo J. Orozco, San Francisco, 1935, pp. 385, 396.

2a. Morris' Human Anatomy: Edited by C. M. Jackson. Ed. 9. P. Blakiston's Son and Co., Philadelphia, 1933, pp. 267-278, 371, 376.

2b. Davis, Gwilym George: Applied Anatomy. Ed. 7. J. B. Lippincott Co., Philadelphia, 1926, pp. 570-571.

2c. Cunningham's Textbook of Anatomy. Edited by Arthur Robinson. Ed. 6. Oxford University Press, New York, 1931, p. 364.

3a. Wiles, Phillip: Flat Feet. Lancet, 1934 (Nov. 17) 2:1089-1094.

3b. Willis, Theodore A.: Functions of the Long Plantar Muscles. Surg., Gynec., and Obst., 1935 (Feb. 1) 60:150-156.

3c. Miller, O. L.: Surgical Management of Pes Calcaneus. Jour. Bone and Joint Surg., 1936 (Jan.) 18:169-172.

3d. Fisher, A. G. Timbrell: Manipulative Surgery. The Macmillan Co., New York, 1926, p. 93.

3e. Taylor, Robert Tunstall: Surgery of the Spine and Extremities. P. Blakiston's Son and Co., Philadelphia, 1923, p. 392.

3f. Key, John Albert, and Conwell, H. Earle: Fractures, Dislocations, and Sprains. C. V. Mosby Co., St. Louis, 1934, pp. 1122-4.

3g. Miller, O. L.: Plastic Flat Foot Operation. Jour. Bone and Joint Surg., 1927 (Jan.) 9:84-91.

3h. Pemberton, Ralph, and Osgood, Robert B.: Medical and Orthopedic Management of Chronic Arthritis. The Macmillan Co., New York, 1934.
4a. Kite, J. H.: Treatment of Congenital Club-Feet. Surg., Gynec., and Obst., 1935 (Aug.) 61:190-200.
4b. Beckwith, C. G.: Postural Studies and the Influence of the Feet. Jour. Am. Osteo. Assn., 1935 (Nov.) 35:117-121.
4c. Albee, Fred H.: Orthopedic and Reconstruction Surgery. W. B. Saunders Co., Philadelphia, 1921, pp. 821-822, 824, 859.
5a. Shoe Research and Education Committee: Second Annual Report, 1932. C. I. Groff, D.O., Chairman, 208 E. Wisconsin Ave., Milwaukee, Wis., p. 2.
5b. Coulter, J. S.: Foot Exercises. The Cyclopedia of Medicine, Vol. V., F. A. Davis Co., Philadelphia, 1934, pp. 541-542.
5c. Taylor, Robert Tunstall: Ibid. ref. 3e, pp. 394, 414, 420.
5d. Munson, Edward Lyman: The Soldier's Foot and the Military Shoe. Handbook for Officers and Noncommissioned Officers of the Line. George Banta Publishing Co., Menasha, Wis., 1912.
5e. Mattison, Norman D.: Foot-Shoe Mechanism in Action. Health Shoe Digest, 210 Lincoln St., Boston, January, 1936, pp. 108-12.
5f. Bynum, H. R.: The Ambulant Method of Bunion Correction. Jour. Osteo., 1936 (Apr.) 43:23-25.
5g. Northup, T. L.: Technic of Getting the Right Shoe on the Right Foot. Jour. Am. Osteo. Assn., 1932 (Sept.) 32:29:30.
5h. Clybourne, H. E.: Importance of the Proper Shoe in the Treatment of Foot Conditions. Jour. Am. Osteo. Assn., 1933 (Jan.) 32:197-198.

CHOPART'S JOINT*

H. V. HALLADAY, D.O.
Des Moines

For several years the program of the section on foot ailments, their diagnosis and treatment, has been an important part of the national convention. I have listened carefully to the discussions, particularly those bearing on the anatomy of the foot. I have noticed that nearly every important anatomical fact has been brought out, with the exception of a detailed discussion of what I consider the most important joint in the foot. This is known as Chopart's joint, or the transverse tarsal articulation. No standard anatomy, with the exception of Morris, and I have examined all of them, even the very latest editions, has a good description of the movements of Chopart's joint. I have also examined three standard textbooks used by podiatrists and no mention is made in them of the movements of this joint.

In my opinion, this joint is the major one involved in the movements of inversion and eversion of the foot and if one is trying to determine whether these movements are normal, and to devise technic that will establish normalcy, it seems to me that he should first understand where these movements take place, how much there is normally, etc. I am not prepared at this time to give a complete exposition of this articulation, but I am ready to make some statements which I hope will stimulate a little more study along this line.

Chopart's joint consists of the joint between the head of the talus and the navicular on the medial side and between the calcaneus and the cuboid on the lateral side. It is really a combination of two joints, and the line drawn from one side of the foot to the other through these joints is an irregular one, being concave posteriorly starting on the inner side of the foot and passing through the talonavicular joint, then becoming convex posteriorly as the line approaches and passes through the calcaneocuboidal articulation. This particular concavo-convex joint largely controls the function of inversion and eversion and for that reason is worthy of study especially so since many physicians have the erroneous idea that these movements are a part of the movement of the ankle joint itself (articulation between the tibia and fibula and talus). This is absolutely erroneous. I want to add that in my investigation of Chopart's joint I found, much to my surprise, that about one-third of each of the movements of eversion and inversion was vested in the talocalcaneal joint and it will have to be brought into the discussion although it is not a part of Chopart's joint.

In order to make this report at least in part authoritative, I should like to mention that I have read all of the standard anatomy texts on this subject; I have made a special dissection of the foot; I have made several x-ray pictures; and I have examined the feet of many patients of different ages and occupations and also with different kinds of pathology. The final report is a summation of these findings.

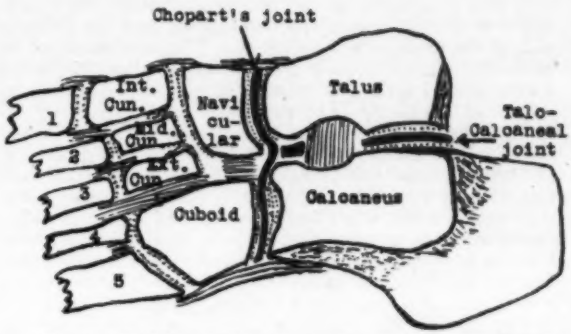


Diagram of oblique section through the foot, showing Chopart's joint and other tarsal articulations.

In discussing these, we must keep in mind the form of the bones making up each of the two parts of this joint. We must visualize the rounded head of the talus with its rather extensive articular surface and the deeply concave articular surface posteriorly of the navicular. Then we must visualize the saddle-shaped surfaces of the calcaneus and the cuboid, the convexity of the articular surface of the calcaneus being nearly in the vertical plane and its concavity approximately in the horizontal plane.

These bones are held together by ligaments. Bones as well as ligaments are passive structures. In our study of this joint we have to be able to picture not only the form of the bones, but also the location of the major ligaments, and then we must know in addition the active structures—the muscles—which are able to change the position of the bones. The foot is not a rigid mass of tissue. Its flexibility is due to the combined movement of several joints, this movement, produced by leg muscles largely, is an effort to overcome the force of gravity, and in walking, propel the body forward. The major ligaments that one should know are the three plantars and the interosseous ligament of the talocalcaneal joint. The others are mostly capsules thickened especially on the concavity of the foot.

Lonnie L. Facto, D.O., of our faculty (Des Moines Still College of Osteopathy), worked with me trying to define the movements of eversion and inversion at this joint. We came to the following conclusions:

The center of movement in Chopart's joint is located at about the center of the long axis of the short internal plantar ligament. In inversion, which is the freer movement of the two, we found a tendency to plantar flexion at the ankle joint. The navicular rotates on the head of the talus, its inner margin or tubercle passing upward and at the same time its lateral margin passing downward. Slight plantar flexion occurred at the first tarsometatarsal articulation and slight extension was found at the metatarsophalangeal joint of the great toe.

At the same time we observed the lateral part of the joint. The cuboid had moved downward and inward. This movement followed an arc the center of which was at the center of the short internal plantar ligament. Now let us see what our standard anatomy texts say about the movement at Chopart's joint:

"The talonavicular articulation permits of a considerable range of gliding movements, and some rotation; its feeble construction allows occasionally of dislocation of the other bones of the tarsus from the talus.

"The movements permitted between the calcaneus and cuboid are limited to slight gliding movements of the bones on each other.

* Delivered before the Orthopedic Section at the Forty-First Annual Convention of the American Osteopathic Association at Chicago, July, 1937.

"The transverse tarsal joint is formed by the articulation of the calcaneus with the cuboid, and the articulation of the talus with the navicular. The movement which takes place in this joint is more extensive than that in the other tarsal joints, and consists of a sort of rotation by means of which the foot may be slightly flexed or extended, the sole at the same time being carried medially (inverted) or laterally (everted)." (Gray[1])

"Apart from the more passive changes that accompany slight flattening of the arches under pressure and their recoil again when freed from weight-bearing, active movement between the tarsal bones, very slight between any two, produces in summation the characteristic changes of inversion and eversion of the foot.

"In eversion, the foot is adducted and twisted so that the medial border is raised and the lateral border depressed until the sole is turned slightly medially. In eversion, the foot is abducted, the lateral border raised and the medial border lowered so that the sole is turned slightly laterally. These changes are mainly brought about at the transverse tarsal joint. Inversion is accompanied by dorsi-flexion at the ankle joint, and eversion by plantar-flexion." (Cunningham[2])

It is a pleasure to read Morris' "Human Anatomy."[3] The section of the book devoted to the articulations was written by a friend of mine, Robert J. Terry, M.D., of Washington University, St. Louis. On page 376 of the 1933 edition there is a fine description of movements of the foot together with a cut showing the axes of movements very much like those worked out by Dr. Facto and myself in the laboratory. His discussion is too extensive to copy, but it is the best of the three standard texts. I think his axis selected to show the movement of Chopart's joint is too near the midline of the foot. He has the right idea of an axis in the anteroposterior plane, though he places it wrongly according to our observations. But he does indicate the axis of the talocalcaneal joint as we found it.

The flat or everted foot is not one in which there is essentially a malposition of the navicular bone, but is one, the outer edge of which, principally the cuboid, is elevated, throwing the weight that should be carried by the outer part of the foot over to the inner side with the resultant pathology. With this eversion and elevation of the cuboid we found dorsal flexion of the first tarsometatarsal joint and slight plantar flexion of the first metatarsal with the first phalanx of the great toe. This seemed to be secondary.

A second articulation should be considered with Chopart's joint for the reason that about one-third of the movements of eversion and inversion are found there. This is the joint between the talus and the calcaneus. The major ligament binding these two bones together is the interosseous, which separates the two joint surfaces and fills the groove between them. To picture the axis of this articulation, a line should be drawn from the center of the articular surface at the head of the talus to a point in the center of the external surface of the calcaneus. This is an oblique axis and at right angles to the interosseous ligament. Although this ligament is strong and the fibers are short, it permits of a considerable degree of movement which we found to be about as follows:

In inversion the large internal tubercle of the calcaneus is tipped in and upward, making the smaller external tubercle bear most of the weight. (There must be a good many of these inverted calcanei, if we may judge from the number of badly worn heels one sees on the streets.) In eversion the reverse was found to be true, but the freer movement occurred in inversion.

There is one other factor that has already been mentioned but which I want to call attention to again. This factor has to do with the muscles that cross these joints. There are thirteen muscles that have their origin in the leg. Twelve of these cross the ankle joint, and by their attachments to the foot act to move the ankle. Eight of these twelve act upon the talocalcaneal joint and nine of the twelve produce movements at Chopart's joint.

Of the muscles of the foot only two are of major importance—the flexor digitorum brevis and the quadratus plantae. The others do not play a major part in intertarsal movement.

The foot is built for strength and mobility. A thorough understanding of the mobility of the foot will enable one to select the proper mechanical treatment for it and apply it correctly.

722 Sixth Ave.

REFERENCES

1. Gray's Anatomy: By Henry Gray, revised by Warren H. Lewis. Ed. 23. Lea and Febiger, Philadelphia, 1936, p. 348.

2. Cunningham's Textbook of Anatomy: Edited by Arthur Robinson. Ed. 7. William Wood and Co., New York, 1937, p. 377.

3. Morris' Human Anatomy: Edited by C. M. Jackson. Ed. 9. P. Blakiston's Son and Co., Inc., Philadelphia, 1933, p. 376.

Physical Therapy Section

THE PRACTICAL LABORATORY ASPECTS OF THERMOGENICS*

R. C. SLATER, D.O.

Ottawa, Ill.

The beginning of chemical and microscopic investigations into physiology years ago eventually resulted in the remaking of this subject, so that now most of the theories and proofs in physiology bristle with laboratory data. From these small beginnings, laboratory diagnosis, as we now see it, was born. During this age of development, the laboratory cheered on by the appreciation and demands of physicians, began to consider itself a highly important thing. As years went by, however, it failed to solve many problems assigned to it, and many tests and technics were abandoned, but its development in the light of newer knowledge has continued steadily. Hopes many times were held too high and claims were made too big; many disappointments followed in which the laboratory took the blame and the physician emerged from his role of beseeching help on his problems to one, in many cases, of abuse and contempt because the laboratory was, like himself, at the best an imperfect thing.

The use of the laboratory in osteopathy is still in vogue, however, among the informed physicians of the profession who are aware of its necessity and usefulness and who are willing to admit that they cannot give full measure of service to their patients without laboratory aid.

In the diagnosis and treatment of the arthritic patient, the laboratory has many uses. One of the most important is the finding of the evidences of disease, acute or chronic, aside from the arthritic involvement. Organic failure such as diabetes or nephritis and latent diseases such as syphilis or malaria must be ferreted out. These must be taken into account especially in preparing the body to meet the effects of elevated metabolism in thermogenic treatment.†

Next, the laboratory is of value as a yardstick in thermogenic treatment. The changing values in the different tests offer delicate and valuable measurement of the trends of the body toward, or away from, improvement, thus registering progress, guarding prognosis, and often changing the line of attack and treatment frequency.

There is no laboratory test that can be applied specifically to arthritis. Each test is used as an individual method of measuring the changes for better or for worse in relation to normal figures. Of course, in some basic tests, as the blood

*Delivered before the Physical Therapy Section at the Forty-First Annual Convention of the American Osteopathic Association at Chicago, July, 1937.

†The term *thermogenic treatment* or *therapy* was defined by W. J. Deason in his article, "Arthritis Treated by Thermogenic Therapy," as including, "(1) The production of heat within the living body according to determined biological reactions; (2) osteopathic manipulative treatment; (3) osteopathic surgery when indicated; (4) colonic treatment; (5) specific dietary adjustment; (6) hydrotherapy; (7) solar therapy; (8) what I choose to call 'manipulative thermic therapy'—osteopathic corrective treatment administered following each thermogenic treatment."

count, one may draw several inferences, knowing the individual case well, that may mean more than relative values. This yardstick, however, wisely applied, is of inestimable value.

THE BLOOD COUNT

The words "blood studies" cover so much ground that the meaning is not clear. But the words "blood count" are definite: a blood count means red and white blood cell count, hemoglobin determination, and color index, and a differential blood cell count of the stained slide. Many arthritics suffer from secondary anemia and once in a while we find a case of primary anemia. No person can respond fully to any form of treatment while in an anemic condition. The red cell count and hemoglobin index, therefore, go unchallenged as a necessity in examination and recheck.

The white cell count is high in many cases of acute arthritis, but it is far from specific. I have seen advanced cases with less than 5,000 and the average of 100 cases taken at large would run nearly 6,000 a cubic millimeter of blood. After a period of treatment is over, a patient will often maintain 2,000 to 4,000 more than on admittance for as long as three months, perhaps longer. A high white cell count may denote, and is usually considered indicative of, the presence of acute infection. To me, it is not diagnostic of an acute process because in eighteen years' experience I have seen many high white counts where infection did not enter into the picture. Toxicity other than of a bacterial nature can raise and maintain the number of white cells, especially when there are toxic products in the colon. One always welcomes the dropping or raising of a white cell count to normal levels; but I never decide on the arrival of a desired result on this basis alone.

If one uses the Schilling differential and interprets it correctly, much information can be obtained. In the acute condition and in some toxic states the shift to the left and increase of stab cells, or vice versa, are of great help as sign posts. Patients who, on first admittance, show a left shift of a marked degree, usually have some arthritic regions that are still in the acute stage. A patient with subacute symptoms and a high lymphocyte percentage, a right shift as it is called, usually responds to treatment much more slowly than one with a left shift. A high lymphocyte count usually indicates chronicity of a deep and fixed nature; such cases respond more slowly to treatment, and, unless this shift is overcome, fail to show a satisfactory permanent result.

If all this be true, what then of the differential and blood count where all the values are practically normal? Do such occur? They certainly do, in many cases, and stay that way throughout treatment. Sometimes these cases register a left shift for a few weeks, but when this occurs there is more than likely an accompanying acute exacerbation in the arthritic patient, in which stiffness and soreness of the afflicted areas increase beyond preceding levels.

I believe that it is safe to offer the opinion, if it will be accepted only as such and not as a statement of fact, that in successful treatment the blood picture unravels itself in reverse order, just as a motion picture runs backward. A quiescent case that was previously acute shows again an acute phase in the blood cell picture. A nearly normal picture is lashed often into an acute left shift; this subsides and changes to a right or lymphocytic one with a varying number of eosinophiles. This finally changes to normal again.

If the patient starts under treatment with a strong shift into immature and mature polys (left shift), he will tend into lymphocytes for a long while before showing again, and finally, a normal differential. It should be understood that I am not describing the blood picture under treatment; these interesting biological changes are in another category entirely. As time goes by I am more and more inclined to doubt any positive prognostic value in the tabulation of the cells, after making a study in which over a million and a quarter of them were counted. At the time of doing this work I summarized[1] my findings substantially as follows, and to date, in further tabulations, I have found essentially the same things:

It seemed that starting as a rule after the first hour the total white and the neutrophile count rose proportionately with the temperature. The total white count soared beyond the temperature during the third hour, after reaching 20,000 or over, and the percentage of neutrophiles was 85 or more. In seven or eight hours from the beginning of treatment both the total white and neutrophile count began to recede and in twenty-four to forty-eight hours were back to where they were before treatment. If the count did not rise, or went downward, or deviated widely from normal, each case invariably had a very unsatisfactory session in the treatment period. If treatment was carried on in the face of a total white and neutrophile count that refused to rise, the temperature rises were irregular and jagged in the graph and the complaints of the patient many and varied. A tendency to shock and collapse was manifest in this type of patient. In cases where this did not occur, the patient was distinctively below par for the next several days. Those whose counts soared seemed to have a good reaction and to get along well the next day and in following treatments.

I have never believed that the rising white cell count and an increased percentage of neutrophiles were due wholly or in a large part to increased proliferation during the time of treatment; but were due to a "flushing out" of the cells because of an increased dilatation of the blood vessels and speed of blood flow. Thus, reasoning correlatively, those patients who evinced a failure of the blood vessels to dilate did not get along well. These conclusions are, as far as I can see with my knowledge and experience, all that there is to be gained of a practical nature from blood counts as far as the cells are concerned, during thermogenic treatment. They should be made about every three treatments providing the patient's condition does not indicate the need for them more often. The physician should note the trends or shifts and he should take care not to drive them too far to the right or left by too frequent or severe treatment; he should also constantly observe, through repeated counts, the trend toward normal as the progress of the case continues.

SEDIMENTATION RATE

This remarkably simple test I regard highly in the control of the treatment of arthritis. This test shows unerringly the presence of active infection in the body and follows its course as accurately as any test available in the laboratory. It refuses to show a normal until the infection is gone. This briefly consists of the following steps: A solution of 3 to 5 per cent sodium citrate is placed in a glass tube graduated in millimeters. In this is placed an amount of venous blood determined by the markings on the tube. This is inverted several times carefully to insure mixing and placed absolutely vertical in a stand. The number of millimeters the red cells fall in the plasma in a given length of time, usually 1 hour, over and above normal, is indicative of the degree of infection. Valuable additional information as to the severity of the infective process and the resistance of the individual can be gained by noting the rate of fall each 5 minutes of the hour, because in many conditions not so severe, the cells fall gradually every 5 minute period and a graph drawn of this rate of fall would be, roughly, a diagonal line at the end of the hour. In others, of a more severe nature, the red cells fall almost the total distance that they are to go in the first 20 minutes of the hour or even less time. A graph of this would naturally be much different.

Keeping the successive graphs of the sedimentation rate of an arthritic patient under treatment gives us a fine shading in the matter of the changes going on in that patient's body in his fight for health. The average rate in healthy people is 2 to 10 millimeters an hour (male 3.7 mm., female 9.6 mm.). In doing several hundred of these tests, I have found them to vary from normal to as high as 35 millimeters in 1 hour. I have never regarded the readings as merely a gage of active arthritis because there are many other conditions of the body that might conceivably be adding to or subtracting from the rate. But I do believe that one can gain additional information as to how the patient's general body resistance is faring and this must, of course, be taken

care of just as much as the specific arthritic process, because the rise and fall of the sedimentation rate is definitely related to the former.

It is interesting to watch an arthritic patient, with limited motion and relatively free from pain, and with a nearly normal sedimentation rate, begin treatment. In many cases there is an acute exacerbation and with this comes a higher sedimentation rate. The process once stirred up in this case seems to keep the rate high until the condition is overcome. I would state that almost without exception, a patient badly afflicted with arthritis admitted for treatment with a rate that is normal and remains so under treatment has a doubtful prognosis.

The sedimentation rate will indicate infection, but its use for the diagnosis of cancer is not reliable in my opinion.

BLOOD CHEMISTRY

Tests for blood sugar, nonprotein nitrogen, and urea are essential in the preliminary examination of a patient to rule out diabetes and nephritis as far as possible. The test for creatinine has never been widely used, but in the arthritic above 60 years of age, especially the male, it is often valuable because a man of that age with a high creatinine has only a year more or less to live; and the embarking on a period of thermogenic treatment in such a case would hardly be worth-while. Blood sugar findings in arthritis are not uniform in my experience. In non-diabetics I have found it to range from 180 down to 77 mg. a 100 cc. of blood. Under treatment with short and ultra-short waves (heat treatment), the blood sugar tends to be reduced, though few patients, regardless of the height in milligrams on admission, fall below 100 mg. at any time during treatment.

The careful attention and treatment of a patient with a high nonprotein nitrogen or urea finding helps far more than one would think in the speeding of results in even the most stubborn cases of arthritis. Not only is this true because one is able to diet and plan treatment that a damaged kidney will stand, if such be present, but also to locate kidneys that though histologically and physiologically sound are as yet far below normal in function, and have been that way for a long time. These kidneys, as well as those defective, must be considered and planned for seriously to satisfactorily eliminate the increased and prolonged flow of waste products that are a result of the heightened and maintained metabolism of thermogenics.

We now have another etiological factor in arthritis to worry about—a type caused by the abnormal action of the parathyroids. According to the authorities who discovered it, this type is entirely refractory unless surgery is done on the glands, then the results are said to be spectacular. Persons who have a history of thyroid trouble with altered metabolic rates previously, I presume, would be technically under suspicion until a blood calcium had ruled the possibility of parathyroid arthritis out. A knowledge of the amount of calcium being constantly eliminated, whether more or less than normal, if taken into consideration with the knowledge obtained from x-ray plates, gives one, when properly applied, an added and valuable insight into the nature of the problem and mode of attack. After all, the deposition of salts in the bone ends, whether increased or decreased, and the existence of local and general areas of rarefaction in these same bones, are of considerable interest in planning what is best to do for the patient.

Then, too, the checking of the rate of calcium outflow as treatment progresses is important because it must be regulated according to the amount originally started with; that is, there are some cases where calcium reduction is essential to the restoration of motion whereas in others the body is so badly drained of it that a husbanding of it within the body, as well as possibly adding more to it, is advisable. When we have, in our thermogenic department, a case with an excessive calcium outflow which we believe is not for the patient's good, we vary the wave length to lessen the outflow.

Much has been said of late in regard to the determination of the cystine content of the nails as an indication in treatment, particularly among those who favor sulphur therapy. This test explains, theoretically, the failure of keratinization and it is argued that the diminution of this substance and others related to it materially affect nutrition and cell activity. It is very doubtful that the technic will ever be generally done as it is exceedingly delicate and very much involved, and the reagents are expensive and prone to deteriorate. We judge cystine lack roughly by looking for excessive "shininess" of the skin which is always evident in incomplete skin keratinization. If a patient's blood sugar and blood urea are determined, this is perhaps enough for practical purposes in the treatment of arthritis. The calcium test should be run, however, where possible, and in any male patient above 60 years of age, the creatine test should be made not only before accepting the patient, but also at the end of treatment before dismissing him.

SEROLOGICAL

All cases of arthritis should be given a Kahn test. This test is accepted as standard, and there is no need to check it with a Wassermann test or to bother with the tedious technic and minute quantities involved in the Kline test. In time, perhaps, we may see others used routinely, for example the new Ide test which is very simple to run and easy to read, if the statistics from its use in the next few years prove it is dependable.

In the search for etiology the T. B. fixation and the G. C. fixation tests should be made. Every state laboratory runs all of them, and there is no need to spend time or money in the hospital laboratory making them. The making of extensive tests to determine the presence of streptococci is, in a large measure, impractical. The finding of streptococci does not prove that to be the cause of the case in question anyway. A case history of streptococcic infection, erysipelas, scarlet fevor or streptococcic sore throat is enough for all practical purposes in including this bacteria as a possible etiological factor in summing up the case. It might be well to add here for emphasis that a history of typhoid fever is distinctly ominous in an arthritic's case history.

URINE

I shall not comment upon the routine substances tested for in a urinalysis; we all know the necessity for a urinalysis. But I must speak of indican. There are still arguments questioning its relation to the re-absorption of toxic material in intestinal stasis. In my experience fecal examination and x-ray study with barium enemata in the chronic patient have never failed to show the state of the bowel and its contents that the indican test indicated. One should try for a negative indican in treatment unless sulphur medication is being used.

Skatol should be tested for routinely; it is the direct evidence of the absorption of products of bacterial decomposition. Fecal analysis, though little done, can yield a mass of valuable information. Many go no further than ascertaining the pH of the stool. This examination can be carried out far beyond this. The giving of a capsule of charcoal or carmine and noting when it is passed, gives one an idea of the speed of intestinal movement. Special tests found in any textbook will enable one to diagnose failure or insufficiency of many of the digestive substances and thus alter diet and treatment to meet these shortcomings. It is surprising, if one takes the stools of arthritics and runs them through fecal screens, what percentage of these cases will be found to be harboring a worm or other parasite of some sort. Where the colon is involved, and in the arthritic it rarely is not, a series of fecal rechecks are of the greatest value because their findings also act as a yardstick as to the body's trend toward or away from normal. Any light that we can bring to bear on individual cases, assimilation and nutrition should not be ignored.

BASAL METABOLISM

To some, this test in arthritis would seem to be irrevalent, but many will be surprised to hear that in over 50 per cent of our arthritics the basal metabolic rate is below

normal on admittance. The extensive investigation of this subject by E. C. Andrews, D.O., has shown almost beyond a doubt that a rising basal rate parallels a return to normal nutrition and body response to treatment. A patient with a basal rate below a minus 15 will take more time in making an adequate response to treatment than a patient with even a minus 10 unless the condition is corrected. Basal rates of over plus 10, unless an actual hyperthyroidism is present, almost routinely normalize nicely as the mechanism of toxic irritation is swept away by thermogenic treatment.

CONCLUSION

Perhaps this discussion has been lacking in statistics, figures, and percentages. It was not my purpose to present the things previously discussed from a research angle, but to point out where the many phases of the laboratory enter, in simple but effective ways, if constantly applied, into the guidance and prognosis of the whole long way of the arthritic as a thermogenic subject. I have not tried to speak of the many indications and contraindications to treatment procedures that we, at the Ottawa General Hospital, constantly derive from our experiences. To discuss the subject in such a detailed manner, bringing forth such a multitude of facts, would have obscured the main issue and that is, that the laboratory in thermogenics offers constant, distinct, dependable and valuable information that can be arrived at from no other source. There is no doubt that one can overtreat an arthritic patient far more easily than he can undertreat him. If our experience has not deceived us, these evidences can be seen far in advance by the skillful use of the laboratory, even before the patient manifests outward signs, symptoms, and complaints. Thus, excesses are more often warded off and treatment given more effectively and efficiently by governing its administration by the body's reaction to it as found in the clinical laboratory.

Ottawa General Hospital, Ottawa, Ill.

REFERENCE

1. Slater, Russell: Arthritis and the Laboratory. Jour. Osteo., 1936 (Sept.) 43:15-19.

Current Osteopathic Literature

Abstracted by R. E. Duffell, D.O.

THE JOURNAL OF OSTEOPATHY
KIRKSVILLE, MO.

44: No. 9 (September), 1937

Editorial: Missouri's License Renewal Law; Dr. Litton; Entrance Requirements—George M. Laughlin, D.O., Kirksville, Mo.—p. 10.

* Acute Appendicitis. Earl H. Laughlin, Jr., D.O., Kirksville, Mo.—p. 12.

Low-Back Pain. H. E. Litton, D.O., Kirksville, Mo.—p. 15.

The Western Circuit. W. M. Pearson, A.B., B.S., D.O., Kirksville, Mo.—p. 17.

A General Renaissance. Carl P. McConnell, D.O., Clear Creek, Calif.—p. 20.

Osteopathic Pediatrics. M. C. McCullough, D.O., Neosho, Mo.—p. 21.

Diabetes Mellitus. Earl H. Laughlin, Sr., D.O., Kirksville, Mo.—p. 24.

Rectal Pathology. H. A. Duglay, D.O., Detroit, Mich.—p. 26.

***Acute Appendicitis.** — Laughlin analyzes 110 consecutive appendectomies coming under his care. The average age incidence was 22.75 years, with 86 per cent under 30 years of age. Sixty of the cases were men and forty-eight were women. In the female, cystic right ovaries were found in addition to the acutely inflamed appendices in fifteen cases. The left ovaries were not involved in any of these.

The onset was ushered in by nausea in thirty-six cases. Vomiting occurred in fifty-six cases. In a few, the onset was by chills and fever without abdominal pain.

Sharp abdominal pain was almost four times more frequent than dull pain, and in over one-half of the cases the pain seemed to start at McBurney's point or in that neighborhood instead of in the epigastrium as described in textbooks.

Laughlin palpates the internal inguinal ring through the inguinal canal as a test for appendicitis. Palpation may not result in pain if the appendix is retrocecal.

The mortality rate in these 110 cases was 5.4 per cent. All the deaths, six, occurred in the so-called dirty cases (in which there was soiling of the peritoneum by rupture or perforation of the appendix). Of the six who died, two were moribund when admitted to the hospital. Excluding the two moribund cases, the mortality was 12 per cent. Laughlin reports that in 55,000 collected cases from current surgical literature, the general mortality was 8.6 per cent with the mortality in dirty cases ranging from 9 to 58 per cent.

OSTEOPATHIC DIGEST
PHILADELPHIA

10: No. 8 (June), 1937

Class of 1937 Makes Gift to Endowment Fund.—p. 2.

Forty-Fifth Commencement Exercises.—p. 3.

*Scientific Supplement: Metatarsal Disease of Köhler. Paul T. Lloyd, D.O., Philadelphia.—p. 5.

***Metatarsal Disease of Köhler.**—Lloyd describes a disease of the metatarsals which, he says, is undoubtedly more common than is generally supposed. In this disease, the following radiographic findings are characteristic: "(1) The articular margin of the metatarsal is altered, becoming flattened and irregular, and losing its rounded contour. (2) The translucent articular fissure is increased in width and breadth, being wider laterally than medially. (3) The contour of the proximal end of the first phalanx becomes less concave and the phalangeal margin condensed and widened, sometimes assuming an 'S' shape. (4) Apparent shortening of the metatarsal is seen, due to the compression and widening of the distal portion of the bone. The appearance of the distal metatarsal may be such as to infer the presence of fracture. (5) In old or long-standing cases with pronounced changes, there is a shadow of bone density, circular in shape, extending outward from the lateral aspect of the articular fissure into the soft tissues. (6) Where the disease is pronounced, there is an increase in the size of the bone throughout its distal one-half with the marrow cavity and cortex, increasing gradually in width up to the distal end."

Definite etiology in this disease is not known. Cases are discovered when x-ray examinations are made following injuries to the foot.

CLINICAL OSTEOPATHY
LOS ANGELES

33: No. 8 (August), 1937

The Laboratory Diagnosis of Pregnancy. Edward A. Randel, A.B., D.O., Los Angeles.—p. 5.

Tumor of the Corpus Callosum. K. Grosvenor Bailey, A.B., D.O., Los Angeles.—p. 25.

The Relationship Between the Practicing Physician and the Coroner. Frank A. Nance, Coroner of Los Angeles County.—p. 34.

*Scientific Interpretation of Blood Counts. Laurence E. Nossaman, A.B., D.O., Los Angeles.—p. 39.

Seborrhea. V. Allen Herbert, D.O., Los Angeles.—p. 54.

Sterility in the Female. Vay L. Peterson, D.O., Los Angeles.—p. 58.

Editorials: Loyalty.—p. 68.

Diathermy Burns Too Frequent. Raymond Nettleship, Los Angeles.—p. 73.

***Scientific Interpretation of Blood Counts.**—Nossaman has covered in a few pages material that fills an ordinary textbook. He presents the physiology of the hemopoietic organs, a description of the cells used to make a Schilling hemogram, the mechanism of interpretation, and its clinical use. The article is illustrated with a chart based on the original hemogram of Schilling to which have been added more details than found in the usual hemogram. Nossaman says repeatedly that clinical findings must invariably be considered as an integral part of the interpretation of all hemograms.

Book Notices

WHY BE TIRED. By Daniel W. Josselyn. Cloth. Pp. 115. Price, $1.00. Longmans, Green and Co., 55 Fifth Ave., New York, 1936.

This little book is packed with sound advice, given in a way that convinces the reader that if certain simple measures outlined by the author are followed conscientiously, he can conduct his life more efficiently than he ever has before. The chronically fatigued business man and woman—"office athletes"—will find the reasons for their tired feelings in this book, together with the remedy. The author discusses sanely the relationship of food, exercise, glandular activity and sex to fatigue, with frequent reference to well-known physicians and scientists. This is a concentrated primer on keeping fit, easily read and easy to put into practice.

R.E.D.

THE MANAGEMENT OF OBSTETRIC DIFFICULTIES. By Paul Titus, M.D. Cloth. Pp. 879, with 314 illustrations. Price, $8.50. C. V. Mosby Company, 3523-25 Pine Blvd., St. Louis, 1937.

This is not a college textbook, nor does it take up fundamentals or normal conditions to any extent. It deals with obstetrical difficulties and emergencies for doctors who are in practice. Gynecological subjects touching upon obstetrics are included, notably a very good chapter on sterility. The illustrations are good. Each chapter is followed by a brief bibliography.

SYNOPSIS OF CLINICAL LABORATORY METHODS. By W. E. Bray, B.A., M.D., Cloth. Pp. 324, with 32 text illustrations and eleven color plates. Price, $3.75. The C. V. Mosby Co., 3523-25 Pine Blvd., St. Louis, Mo., 1936.

This author has succeeded well in his attempt "to bring together in a small volume for ready reference the more recent information and the most frequently used methods of laboratory diagnosis." There are lists of laboratory work on various services and on special cases. There are well-illustrated chapters on urinalysis, blood chemistry, bacteriology, and surgical pathology, and there are considerations of routine and special procedures. There is a most practical list of indicators, stains, staining solutions, reagents, atomic weights, etc.

FACTS AND PHAGOCYTES. The Story of the Development of Hydrochloric Acid Therapy. By Burr Ferguson, M.D., Fellow A.M.A., A.A. Surgeon U.S.P.H.S. 1920-1926 (Foreign Branch), Lt. Col. M.C.A.E.F. etc., etc. Cloth. Pp. 270. Price, $5. Medical Success Press, Youngstown, Ohio.

This book is an account of the clinical observations by the man who developed the use of hydrochloric acid for stimulating the growth of white blood cells as an aid in immunity—a foe of infection. Published by Dr. Charles E. Blanchard Publishing House of Youngstown, Ohio, it partakes of the style of most of the books turned out there. In fact in his foreword the author begins: "I am fully aware that this book of mine is more a personal history or autobiography than a scientific treatise on a medical subject. My long search for a real local and systemic agent to overcome infections has been really my life for more than twenty years. I am therefore easily excused for dramatizing the story of these years." His grievances against the authorities of organized medicine make interesting reading.

LEGAL MEDICINE AND TOXICOLOGY. By Thomas A. Gonzales, M.D., Morgan Vance, M.D., Milton Helpern, M.D., with a foreword by Harrison S. Martland, M.D. Cloth. Pp. 754 with 244 illustrations. Price $10. D. Appleton-Century Co., 35 W. 32nd St., New York City.

All three of the authors are men of acknowledged authority with sufficient teaching experience to make them wise in the selection and preparation of the text. Their experience in the office of the Chief Medical Examiner of the City of New York, which investigates annually more than 15,000 deaths gives an unexcelled foundation. The intensive investigations in their office have led to a number of recent advances in special technical processes used in medicolegal investigations and these are discussed. Likewise the section on toxicology reports methods of analysis similar to those employed in the office of the Chief Medical Examiner of New York City. In short, the text covers the subject thoroughly and in an up-to-date manner. The illustrations are chosen with few exceptions from cases handled by the New York Chief Medical Examiner's office, and they constitute one of the remarkable features of the volume. Throughout the subject has been treated with a view to making it of value to the physician in practice.

National Board of Examiners for Osteopathic Physicians and Surgeons

CHARLES HAZZARD
President
New York

EXAMINATIONS SCHEDULED IN PARTS I AND II

The National Board of Examiners for Osteopathic Physicians and Surgeons will hold examinations in Parts I and II at each of the approved osteopathic colleges upon the first Thursday and Friday in December.

Part I of the examination includes the subjects of anatomy, including histology and embryology; physiology; physiological chemistry; general pathology; bacteriology, including parasitology and immunology.

Part II of the examinations includes the subjects of surgery, including applied anatomy, surgical pathology and surgical specialties; obstetrics and gynecology; pediatrics; neuropsychiatry and therapeutics; public health, including hygiene and medical jurisprudence; osteopathic theory (principles) and practice.

Parts I and II are written examinations. Part III of the examinations is oral and is held usually at the time of the national A.O.A. convention.

The fees for the examinations to accompany the applications are as follows: Part I, $10.00; Parts II and III, $20.00 each, a total of $50.00 for the entire examination.

At the last meeting of the Board, Dr. Donald Sydney Gibbs of England, having successfully passed all parts of the examination, was issued a certificate.

Application blanks may be secured from the Deans of any of the osteopathic colleges and from the undersigned.

ASA WILLARD, D.O., Secretary-Treasurer.
Missoula, Mont.

State Boards

District of Columbia

The examinations before the Board of Examiners in the Basic Sciences will be held beginning December 27 and will continue for two days.

Examinations before the Board of Examiners in Medicine and Osteopathy will be held beginning January 10.

All applications must be in the hands of the Secretary-Treasurer of the Commission on Licensure not later than December 15. For further information address George C. Ruhland, M.D., Secretary-Treasurer, Commission on Licensure, Room 203 District Bldg., Washington, D.C.

Florida

The next examinations will be held November 4, 5 and 6 at Jacksonville. For application blanks write to Ralph B. Ferguson, Secretary-Treasurer, 401-5 First National Bank Building, Miami.

Iowa

The Iowa Board of Examiners in the Basic Sciences will conduct a written examination at the State Capitol, Des Moines, on January 11 at 9:00 a.m. Address E. A. Benbrook, V.M.D., Secretary, Iowa Basic Science Board, c/o Iowa State College, Ames.

Maine

H. J. Pettapiece, Camden, was recently appointed for a five year term, ending in July, 1942.

Nebraska

The following officers were elected in June: President, Charles Hartner, Madison; vice president, Harold A. Fenner, North Platte; secretary-treasurer, Charles Blanchard, Lincoln.

Oklahoma

The next examinations given by the Basic Science Board will begin December 1 and continue for two days. For further information write to Dr. J. D. Osborne, Jr., Secretary, Frederick, or to D. A. Shaffer, osteopathic representative, 401 Community Bldg., Ponca City.

Conventions and Meetings

Announcements

American Osteopathic Association, Forty-Second Annual Convention, Cincinnati, July 11-15, 1938. Program chairman, R. McFarlane Tilley, New York City.

American College of Osteopathic Surgeons, Cleveland, 1938. Program chairman, E. G. Drew, Philadelphia.

American Osteopathic Society of Proctology, Marietta, Ohio, July 8, 9, 1938.

Arkansas state convention, Little Rock, May, 1938. Program chairman, Charles A. Champlin, Hope.

California midwinter meeting, Sacramento, January 28, 29; state convention, Hotel Del Coronado, San Diego, June 8-11, 1938.

Eastern Osteopathic Association, Hotel Pennsylvania, New York City, April 2, 3, 1938. Program chairman, F. Gilman Stewart, New York City.

Florida state convention, May 16-18, 1938. Program chairman, G. C. Richardson, Mt. Dora.

Georgia state convention, Hotel Dempsey, Macon, May 20, 21, 1938. Program chairman, D. C. Forehand, Albany.

Idaho state semiannual convention, Burley, November. Program chairman, C. R. Whittenberger, Caldwell.

Illinois state convention, Rockford, June, 1938. Program chairman, C. E. Medaris, Rockford.

Indiana state convention, Indianapolis, 1938.

Kansas state convention, Iola, 1938. Program chairman, Frank W. Shaffer, Salina.

Minnesota state convention, Minneapolis, May 6, 7, 1938.

Missouri state convention, Hannibal, 1938. Program chairman, F. W. Zuspan, Flat River.

Montana state convention, Billings, 1938.

Nebraska state convention, North Platte, September, 1938.

New England Osteopathic Association, Hotel Statler, Boston, Mass., April 29, 30, 1938. Program chairman, Orel F. Martin, Boston.

New Hampshire state convention, Concord, first week of May, 1938. Program chairman, C. S. Garran, Rochester.

New York state convention, Binghamton, 1938.

Ohio state convention, Marietta, May 15-17, 1938.

Oklahoma state convention, Ponca City, April 13, 14, 1938. Program chairman, D. W. Streitenberger, Ponca City.

Oregon state convention, Le Grande, June, 1938. Program chairman, Fred S. Richards, Forest Grove.

South Dakota state convention, Huron, May, 1938.

Southwestern Internists Conference, Tulsa, Okla., 1938.

Vermont state convention, St. Johnsbury, October, 1938. Program chairman, Kenneth P. Wheeler, Brattleboro.

West Virginia state convention, Huntington, early part of May, 1938.

Official and Affiliated Organizations

CALIFORNIA

East Bay Branch

At Berkeley, September 24, Warren W. Vanderburgh, San Francisco, spoke on legislation, and Lily G. Harris, Oakland, and Roger A. Peters, Berkeley, spoke on "Downing's Posture Machine."

Hollywood Osteopathic Luncheon Club

On September 28 Wayne Dooley, Los Angeles, presented a scientific paper.

In October Bruce S. Collins, Santa Monica, spoke on "Foot Health."

Los Angeles Branch

On October 11 H. E. Litton spoke on "Upper Thoracic Technic," and members of the Technic Department of the College of Osteopathic Physicians and Surgeons at Los Angeles, demonstrated technic.

Mother Lode Branch

Porter E. Jones, Ione, was elected president on September 18.

Orange County Branch

At the September meeting E. E. Brostrom, Los Angeles, spoke on "The X-Ray and Skin Diseases."

Pasadena Branch

On September 23 the following symposium on Osteopathic Institutions in Los Angeles County was presented: "College of Osteopathic Physicians and Surgeons," Carle H. Phinney and W. W. W. Pritchard; "Los Angeles County Osteopathic Hospital," H. S. Perry; discussion of recent Kern County court decision on tax-supported hospitals, James J. Galbraith; "Osteopathic Bureau," Mr. H. T. Cassidy, all of Los Angeles.

On October 21 Charles D. Finley, Pasadena, spoke on "Some of the Common Osteopathic Lesions and Their Treatment."

Sacramento Valley Branch

October 2 R. W. Burton, Grass Valley, spoke on "The Prevention and Treatment of Poliomyelitis."

San Diego Branch

On October 1 Mr. M. B. Sapin, Los Angeles, spoke on "Osteopathic Publicity."

San Francisco Branch

The following are the present officers and committee chairmen: President, D. W. Brocklehurst; vice president, Robert G. Lawson, reelected; secretary-treasurer, Iris A. Perry, reelected; membership, A. S. Wallace; public health and education, E. V. Sutton; monthly program, S. H. Hamilton; publicity, Margaret Waldo; legislation, Thomas L. Morgan, all of San Francisco.

Sonoma County Branch

On September 16 at Santa Rosa, a discussion was conducted on new methods for the control of venereal diseases.

On October 7 Lily G. Harris, Oakland, and Margaret Waldo, San Francisco, spoke on the Chicago A.O.A. convention.

FLORIDA

Central Florida Osteopathic Association

On September 9 at Bartow, C. H. Wilson, Bartow, spoke on "The Lumbar Area," and H. S. Carlson, Bartow, spoke on "Technic."

On October 14 at Eustis, James A. Stinson, St. Petersburg, led a discussion on "Unsuspected Fractures."

Duval County Osteopathic Medical Society

The following are the present officers and committee chairmen: President, Paul E. Duffe; vice president, H. B. Merner; secretary-treasurer, Ida Ellis Bush; membership and student recruiting, Truman J. Richards; professional education and clinics, Louis J. Larmoyeux; hospitals and legislation, E. W. Wiley; censorship and public health and education, A. G. Chappell; industrial and institutional service and statistics, J. H. Simpson; publicity, Dr. Merner; convention program, Dr. Bush; convention arrangements and professional development, Charles C. Hillyer; displays at fairs and expositions, Avis M. Withers, all of Jacksonville.

GEORGIA

State Association

On October 15 and 16 Curtis H. Muncie, New York City, demonstrated a method of treating certain types of deafness at a public clinic.

South Georgia Osteopathic Association

At Valdosta, September 3, Frederick E. Keefer, Fitzgerald, was elected president. The next meeting will be held in March at Fitzgerald.

HAWAII

The following are the present officers and committee chairmen: President, Morris Augur; vice president, Daisy E. Spencer; secretary-treasurer, Emily C. Dole, reelected; publicity and legislation, Isabelle Morelock; convention program, Mabel Runyan, all of Honolulu.

IDAHO

State Association

The officers were reported in THE JOURNAL for July. The following committee chairmen have been appointed:

Membership, Iris A. Goff, Twin Falls; professional education, Avis Maxwell, Boise; hospitals, A. G. Bowbrick, Boise; censorship, J. R. McMillen, Twin Falls; student recruiting, H. B. Catron, Payette; public health and education, O. R. Meredith, Nampa; industrial and institutional service, L. D. Anderson, Boise; clinics, H. V. Heimberger, Parma; publicity, E. C. Hiatt, Weiser; statistics, D. W. Hughes, Boise; convention program, C. R. Whittenberger, Caldwell; convention arrangements, F. H. Thurston, Boise; legislation, W. S. Warner, Idaho Falls; professional development, Andrew McCauley, Idaho Falls; displays at fairs and expositions, Andrew E. Johnson, Rupert.

Boise Valley Osteopathic Society

At Caldwell, September 16, C. L. Heuck, Nampa, reported on the work obtained at the Denver Postgraduate College and H. V. Heimberger, Parma, spoke on "Epilepsy."

At Nampa, October 21, the following addresses were presented: "Social Security," and "The Future Doctor and His Therapy."

South Central Idaho Osteopathic Society

At Twin Falls, September 21, C. L. Wainwright, Buhl, spoke on "High Blood Pressure," and H. L. Shade, Burley, on "Pelvic Affections."

In October L. D. Anderson, Boise, was the principal speaker.

ILLINOIS

Chicago Osteopathic Association

On October 7 Mr. H. E. Caylor, H. Willard Brown, and E. W. Reichert, all of Chicago, spoke on "Public Relations as Applying to the Osteopathic Physician."

Chicago—North Shore Osteopathic Society

On October 22 a business meeting was held at which insurance examinations were discussed.

Chicago—South Side Osteopathic Physicians' Society

On October 14 Henry C. Sands, Chicago, spoke on "The Future of Osteopathy."

October 21 S. V. Robuck, Chicago, talked on "The Art of Practice."

Chicago—West Suburban Osteopathic Society

On October 16 at Oak Park, Mr. John C. Parker spoke on "Safe Investments for the Professional Man," and S. E. Stanley, Chicago, talked on "Skin Conditions From the Osteopathic Viewpoint."

Fourth District Illinois Osteopathic Association

At Peoria, October 7, W. F. Strachan, Chicago, spoke on "Athletic Injuries."

The following officers were elected: President, M. D. Sours, Bloomington, reelected; secretary-treasurer, V. E. Willis, Clinton; trustee, C. E. Cryer, El Paso.

The next meeting is scheduled to be held at Eureka in December.

Sixth District Illinois Osteopathic Association

At Springfield, September 22, Ruth B. Drown, Los Angeles, Calif., was the principal speaker.

INDIANA

State Association

The following officers were elected on October 14: President, C. Allen Brink, Princeton; president-elect, T. K. Arbuthnot, Richmond; secretary, Fred L. Swope, Richmond, reelected.

Northern Indiana Osteopathic Association

On September 10 a round table discussion was conducted on seasonal diseases.

IOWA

Linn County Society of Osteopathic Physicians and Surgeons

At Cedar Rapids, September 29, H. B. Willard, Manchester, was the principal speaker. Plans for future meetings were discussed.

On October 21 Dr. Willard was host to the society and conducted the members on an inspection tour of his recently completed hospital.

Polk County Osteopathic Association

On October 11 an educational meeting was held. Vocational guidance teachers of the various junior and senior high schools, colleges, and universities of Des Moines, were special guests. The following were the speakers: Benny Devine, Des Moines, toastmaster; A. D. Becker, Des Moines, "Scientific Principles Underlying Osteopathy"; H. V. Halladay, Des Moines, "Osteopathy's Important Place in Athletics"; Mary E. Golden, Des Moines, "Osteopathy as a Career."

First District Iowa Osteopathic Association

The following program was presented on October 6 at Cedar Rapids: "Rules of Health," and "Urological Diagnosis," Howard Lamb, Denver; "Unit Contact System," S. H. Klein, Des Moines; "Technic," William Huls, Kirksville, Mo.; "State Society Service Letters," J. J. Henderson, Toledo; round table discussion of "Chronic Shoulder Disabilities."

The following officers were elected: President, Dr. Henderson; vice president, R. W. Jack, Davenport; secretary-treasurer, G. A. Whetstine, Wilton Junction; state trustee, Dr. Henderson.

The November meeting will be held at Muscatine.

Second District Iowa Osteopathic Society of Physicians and Surgeons

At Sheldon, October 6, Anton Kani, Omaha, Nebr., spoke on "Osteopathy in Hospitals"; Rolla Hook, Logan, on "Osteopathic Centers"; Sherman Opp, Creston, "Technic"; Leo Sturmer, Shenandoah, "Electro-Magnetic Phase of Glandular Physiology," and John A. Niemann, Omaha, gave a demonstration on injection treatment of hernia.

Third District Iowa Osteopathic Association

At Ottumwa, October 6, L. L. Facto, Des Moines, Harold Fenner, North Platte, Nebr., and George C. Widney, Lexington, Nebr., were the speakers.

Fourth District Iowa Society of Osteopathic Physicians and Surgeons

On October 6 at Mason City, L. L. Facto, Des Moines, spoke on "Special Diagnosis of Backache," and J. H. Voss, Albert Lea, Minn., spoke on "Obstetrics."

The following officers were elected: President, W. L. Tindall, Woden; vice president, George H. Millenbaugh, New Hampton; secretary-treasurer, R. K. Richardson, Wesley; district trustee, H. D. Meyer, LuVerne.

Fifth District Iowa Osteopathic Association

At Cherokee, October 7, Anton Kani, Omaha, Nebr., spoke on "Surgical Procedures."

The following officers were elected: President, W. C. Gordon, Sioux City; vice president, Marvin E. Green, Storm Lake; secretary-treasurer, A. M. McBurney, Mapleton; district trustee, J. E. Bunker, Cherokee; state trustee, Ray B. Gilmour, Sioux City.

Sixth District Iowa Osteopathic Association

At Perry, October 7, the following program was presented: "Urological Diagnosis," Howard Lamb, Denver; "Infantile Paralysis," H. A. Graney, Des Moines; "Clinical Blood Pressure," J. M. Woods, Des Moines.

The following officers were elected: President, J. I. Royer, Woodward; vice president, C. H. Fedson, Ames; secretary-treasurer, Grace B. Nazarene, Dallas Center (reelected); district trustee, H. L. Gulden, Ames.

KANSAS

State Association

The following officers were elected on October 14: President, Lawrence O. Martin, Dodge City; vice president, Kirkland A. Bush, Harper; secretary-treasurer, Raymond L. DeLong, Wichita, reelected; editor and statistician, Dr. DeLong, reelected; trustee, Karl M. Pearson, Kansas City. Kirkland A. Bush, Harper, is chairman of the department of professional affairs. The following committee chairmen have been appointed under that department: Membership, Lawton M. Hanna, Clay Center; professional education and development, C. Frederick Smith, Kinsley; vocational guidance, C. C. Matheny, Anthony; general convention arrangements, Dr. DeLong; local convention arrangements, Bayard S. Twadell, Iola; program, Frank W. Shaffer, Salina; hospitals, Herbert C. Wallace, Wichita; censorship, S. H. Nolen, Wichita. Raymond R. Wallace, Caldwell, is chairman of the department of public affairs. Committee chairmen under that department are: Publicity, Paul R. Jones, Greensburg; industrial and institutional service, C. B. Myers, Madison; clinics, Irwin J. Conant, Scranton; public health and education, J. S. Jilka, Lyons; maternal-child health and welfare, Earl C. Logsdon, Sedan; osteopathic exhibits at fairs, Paul L. Leeper, Hutchinson; legislation, V. A. Leopold, Garden City. The following committees are under no departments: Public and professional welfare, B. L. Gleason, Larned; veterans affairs, Ivan F. Hooper, Russell; constitution and by-laws, Dr. Gleason; nominating, Irwin E. Nickell, Smith Center.

Arkansas Valley Society of Osteopathic Physicians and Surgeons

At Ness City, September 30, L. O. Martin, Dodge City, spoke on "Endocrine Diseases in Gynecology;"

F. E. Loose, Lewis, talked on "Osteopathic Technic of the Lumbar and Sacroiliacs," and A. B. Slater, Garden City, gave a paper on "The Importance of a Complete Physical Examination."

The November meeting will be held on the 10th at Larned.

Central Kansas Association of Osteopathic Physicians and Surgeons

At Lincoln, September 16, George F. Long, Stockton, spoke on "The Pharynx," and Dr. Czeskleba, Hayes, an optometrist, talked on diseases of the eye.

Eastern Kansas Osteopathic Society

At Garnet, September 16, Bayard S. Twadell, Iola, spoke on "Practical Urinalysis for the General Practitioner."

The November meeting will be held on the 4th.

Shawnee County Osteopathic Association

At Topeka, September 16, Leonard J. Graham, Kansas City, Mo., spoke on "Diagnosis of Acute Abdominal Conditions."

South Central Kansas Osteopathic Society

At Cedarvale, September 16, J. T. Catlin, Eureka, spoke on "Obesity and Its Management," and L. E. Brenz, Arkansas City, discussed "Infantile Paralysis."

Southern Kansas Osteopathic Association

On September 15 the following officers were elected: President, F. L. Barr, Arkansas City; vice president, C. V. Moore, Medicine Lodge; secretary-treasurer, C. R. Kinkaid, Oxford.

A meeting was held on October 12.

Southwestern Kansas Society of Osteopathic Physicians and Surgeons

At Parsons, September 16, A. B. Wheeler, Carthage, Mo., and Mr. A. C. Olson, Philadelphia, spoke on the new osteopathic hospital at Carthage.

Tri-County Osteopathic Study Association

At Inman, September 21, K. A. Bush, Harper, spoke on "Obstetrics in Europe," and H. C. Wallace, Wichita, discussed "The Treatment of Anterior Poliomyelitis."

The November meeting will be held at Hutchinson.

Verdigris Valley Osteopathic Association

A meeting was held at Parsons, September 16.

KENTUCKY

State Association

The thirty-second annual convention of the Kentucky Association of Osteopathic Physicians and Surgeons was held at the Brown Hotel, Louisville, October 28 and 29, too late to be reported in this number of THE JOURNAL.

MAINE

Western Maine Osteopathic Association

At Lewiston, October 6, an organization meeting was held and the following officers were elected: President, E. B. Wales, Winthrop; vice president, Henry M. Close, Lisbon Falls; secretary, F. E. Epps, Auburn; treasurer, E. E. Puffer, Wilton; directors, W. J. Welch and I. J. Shalett, both of Lewiston and S. A. Williamson, Lisbon Falls.

Luncheon meetings will be held each wednesday at the DeWitte Hotel.

MASSACHUSETTS

Middlesex South Osteopathic Society

At Newton, October 7, Frank D. Stanton, Boston, spoke on "The Physician-Patient Relationship."

Worcester District Osteopathic Society

At Worcester, October 6, Lionel J. Gorman, Boston, spoke on "Nonoperative Gynecology."

MICHIGAN

State Association

The thirty-ninth annual convention of the Michigan Osteopathic Association of Physicians and Surgeons was held at the Pantlind Hotel, Grand Rapids, October 26 to 28, too late to be reported in this number of THE JOURNAL.

Detroit Association of Physicians and Surgeons of Osteopathic Medicine

The officers were reported in THE JOURNAL for July. The following committee chairmen have been appointed: Membership, Bernardine Schefneker; professional education, Russell M. Wright; hospitals, A. C. Johnson; censorship, W. H. Baker; student recruiting, John P. Campbell; public health and education, W. H. Cox; industrial and institutional service, Forest E. Schaeffer; clinics, J. C. Hovis; publicity, Leo L. Perrin; statistics, George B. F. Clarke; convention program, C. J. Karibo; legislation, W. L. Skidmore; professional development, Delle A. Newman, all of Detroit, and displays at fairs and expositions, L. G. Huddle, Ferndale.

Southwestern Michigan Osteopathic Association

The following officers were elected on September 30 at Hartford: President, Ralph W. Thomas, Plainwell; vice president, Joe F. Reed, Watervliet; secretary-treasurer, Donald Beebe, Kalamazoo.

MINNESOTA

Southern Minnesota Osteopathic Association

The tenth annual convention was held at Albert Lea, October 1 and 2. The following program was presented:

October 1—"Auto-biochemic Treatment," H. H. Stewart, Minneapolis; "Examination of the New Patient," John M. Woods, Des Moines; "Short-Wave Diathermy," George A. Alexander, Redwood Falls; "Specific Osteopathic Technic," H. R. Berston, St. Paul.

October 2—"Chronic Leukorrhea," Karl Burch, St. Peter; "Our Osteopathic Armamentarium," Dr. Woods; "Anomalies of the Low Back," A. E. Allen, Minneapolis; "Allergy," Dr. Berston; "Basic Sciences," C. F. Pollock, Minneapolis.

MISSOURI

State Association

The following officers were elected on October 8: President, Collin Brooke, St. Louis; first vice president, Ottis L. Dickey, Joplin; second vice president, Laura Grace Simmons, Milan; secretary-treasurer, H. D. McClure, Kirksville.

Buchanan County Osteopathic Association

The following officers were elected on September 23: President, O. G. Weed; vice president, John M. Spencer; secretary-treasurer, C. L. Ferguson, reelected, all of St. Joseph. The following committee chairmen have been appointed: Membership, Dr. Spencer; professional education, Aurel E. Foster; hospitals, W. E. Hartsock; censorship, T. H. Hedgpeth; student recruiting, C. L. Ferguson; public health and education, E. D. Holme; industrial and institutional service, E. J. Gross; clinics, H. N. Tospon; publicity, E. U. Shackelford; statistics, J. D. Rickett; convention program, Foy Trimble; convention arrangements, R. L. Smith; legislation, W. W. Grow; professional development, W. P. Lenz; displays at fairs and expositions, Rex N. Rennick, all of St. Joseph.

Central Missouri Osteopathic Association

At Mexico, September 16, H. I. Nesheim, Mexico, spoke on "The Acute Surgical Abdomen." The following officers were elected: President, T. R. Turner, Madison; vice president, Nellis G. Christman, Paris; secretary-treasurer, Dr. Nesheim. Committee chairmen have been appointed as follows: Membership, Dr. Nesheim; professional education, R. B. Bäize, Laddonia; hospitals, R. W. Van Wyngarden, Mexico; censorship, R. F. Birdsong, Columbia; student recruiting, D. E. Chute, Jacksonville; public health and education, D. A. Squires, Fulton; industrial and institutional service, A. A. Markovich, Wellsville; clinics, A. H. Van Arsdale, Bellflower; publicity and legislation, B. S. Jolly, Moberly; statistics, J. H. Hardy, Columbia; professional development, W. V. Durden, Higbee; displays at fairs and expositions, H. A. Gorrell.

The November meeting will be held on the 18th at Huntsville.

Kansas City Society of Osteopathic Physicians and Surgeons

The following changes have been made in committee chairmanships: Professional education, L. J. Graham, Kansas City, to take the place of J. M. Peach; hospitals, A. E. Linville, Kansas City, to take the place of Leonard Graham.

North Central Missouri Osteopathic Association

At Chillicothe, September 19, O. G. Weed, St. Joseph, spoke on diagnosis. The following officers were elected: President, G. H. Kroeger, Purdin; vice president, G. W. Held, Dalton; secretary-treasurer, Cecil G. Wise, Harris; trustee for three years, Laura Grace Simmons, Milan.

The November meeting will be held on the 18th at Carrollton.

Northeast Missouri Osteopathic Association

At Canton, September 9, a meeting was held.

Northwest Missouri Osteopathic Association

The following officers were elected on September 23: President, R. R. Reynolds, Maysville; vice president, Ernest L. Wood, Bethany; secretary-treasurer, R. M. Lilley, Maitland; trustee, E. L. Wood, Bethany.

Osage Valley Osteopathic Association

At Eldon, September 23, K. D. Atterbury, Camdenton, read a paper on "The Care and Treatment of Infantile Paralysis." The following officers were elected: President, K. J. O'Banion, California; vice president, Robert E. Murrell, Russellville; secretary-treasurer, H. Keith Hendrix, Jefferson City; program chairman, P. F. Eckhoff, Versailles.

The November meeting will be held at Versailles.

Ozark Osteopathic Association

The following officers were elected in September: President, I. L. James; vice president, T. M. King; secretary-treasurer, Lou Tway Noland, reelected, all of Springfield. The following are the committee chairmen: Hospitals, William L. Wetzel; publicity, L. H. Stevison; legislation, Dr. Noland, all of Springfield.

Southeast Missouri Osteopathic Association

The officers were reported in THE JOURNAL for October. The following committee chairmen have been appointed: Membership, Z. W. Zuspan, Flat River; professional education, hospitals, censorship and student recruiting, H. E. Reuber, Sikeston; public health and education, industrial and institutional service, clinics and publicity, Jean Ruff, Cape Girardeau; statistics, convention program and arrangements, P. A. McGuerty, Cape Girardeau; legislation, J. L. Margreiter, Flat River; professional development and displays at fairs and expositions, M. M. Fuller, Cape Girardeau.

St. Louis Osteopathic Association

On October 19, G. R. Shoemaker, St. Louis, spoke on "Otology as Applied to a General Practice," and F. L. Harrington, St. Charles, talked on "The Osteopathic Care and Treatment of Athletes and Athletic Injuries."

Southwest Missouri Osteopathic Association

At Aurora, September 17, M. S. Slaughter, Webb City, spoke on "A Little More Osteopathy," and Miss Cora Gottreu, R.N., Aurora, spoke on "Nursing in Osteopathic Institutions."

The following officers were reelected: President, Albert B. Wheeler, Carthage; vice president, M. S. McCullough, Neosho; secretary, Harry D. Marbaugh, Joplin; treasurer, Ottis L. Dickey, Joplin. George Cox, Webb City, was appointed a state trustee. The following committee chairmen have been appointed: Membership, D. K. Copeland, Joplin; professional education, Roy Freeman, Joplin; hospitals, Dr. McCullough; censorship, Dr. Cox; student recruiting, Clyde B. Spangler, Joplin; public health and education, L. A. Peterson, Sarcoxie; industial and institutional service, Harry D. Marbaugh, Joplin; clinics, M. A. Davis, Carthage; publicity, Ottis L. Dickey; statistics, Ida B. Johnson Parsons, Monett; legislation, W. C. Hazell, Monett; professional development, Sid Lawson, Joplin; displays at fairs and expositions, R. D. Kirkland, Liberal; good fellowship, Myrtle M. Dickey, Joplin.

The November meeting is to be held the 17th at Joplin.

West Central Missouri Osteopathic Association

At Independence, September 30, George J. Conley, Kansas City, spoke on "Cholecystitis."

The following officers were elected: President, R. H. Nuckles, Slater; vice president, Ray H. Schoenhals, Higginsville; secretary-treasurer G. E. Darrow, Independence; trustee for three years, Edith Salmon, Appleton City.

The November meeting is to be held on the 4th at Higginsville.

MONTANA

State Association

The following officers were elected on September 22: President, R. H. Armond, Great Falls; vice president, Keith S. Lowell, Eureka; secretary-treasurer, J. H. Strowd, Glendive, reelected; trustee, Jack E. Cox, Lewistown.

NEBRASKA

State Association

The following officers were elected on September 22: President, E. H. Frech, Lincoln; vice president, Harold A. Fenner, North Platte; secretary, I. D. Gartrell, Clay Center, reelected; treasurer, Angela McCreary, Omaha, reelected.

NEW JERSEY

Passaic County Osteopathic Society

At Little Falls, September 13, a round table discussion of medicolegal aspects was conducted.

Union County Osteopathic Society

The following are the present officers: President, Frank Miller, New Brunswick; vice president, H. W. Christensen, Summit; secretary-treasurer, Gordon L. Peters, Cranford, reelected.

NEW YORK

State Society

The name was changed to the New York State Osteopathic Society, Inc. The following officers were elected on October 3: President, A. W. Bailey, Schenectady; vice president, Helen M. Dunning, New York City; secretary, Melvin B. Hasbrouck, Albany; treasurer, Geraldine Wilmot, New York City, reelected. Directors were elected as follows: C. M. Bancroft, Canandaigua; W. O. Kingsbury, New York City; R. M. Tilley, Brooklyn; John R. Miller, Rome; J. Marshall Hoag, New York City. The following committee chairmen have been appointed: Compensation Law Board, C. M. Bancroft, Canandaigua; legislation, John L. Brookman, Albany; state and social medicine, Dr. Dunning; public relations, Dr. Hoag; education and professional development, Thomas R. Thorburn, New York City; clinics and hospitals, Eugene R. Kraus, New York City; insurance, Howard Herdeg, Buffalo; student recruiting, Donald B. Thorburn, New York City; advisory committee on legislation, H. Van Arsdale Hillman, New York City; special membership effort, Dr. Hasbrouck; recommendations for osteopathic member of board of medical examiners, Dr. Kraus; finance and budget, William O. Kingsbury, New York City; revision of constitution, Dr. Bancroft; manual of procedure, Dr. Kingsbury; publication of multigram pamphlet, Dr. Hillman; insurance, Dr. Herdeg; student scholarship fund, E. R. Larter, Niagara Falls.

Central New York Osteopathic Society

On September 23 John R. Miller, Rome, spoke on "Legislation, Past and Future." The following officers were elected: President, Patrick H. O'Hara; vice president, J. J. Johnston; secretary, Francis J. Beall, Jr., reelected; treasurer, W. E. Kaufmann, reelected; chairman of the board, J. H. Finley; program committee, A. S. Prescott, chairman, Fred Gruman, all of Syracuse, and Stewart P. Smith, Skaneateles.

The October meeting was held at Rome.

Hudson River North Osteopathic Society

At Saratoga Springs, September 25, Mr. Herbert Ant, chemist of the Saratoga Springs Foundation, conducted a lecture tour of the Spa.

Osteopathic Society of the City of New York

On October 16 Ira W. Drew, Philadelphia, Pa., spoke on "An Osteopathic Physician in the United States Congress."

OHIO

Southeastern Ohio Osteopathic Society

At Marietta, October 11, Charlotte Weaver, Akron, was the principal speaker.

Stark County Osteopathic Society

On September 29 a fall outing was held.

Second (Cleveland) District Osteopathic Society

The officers were reported in THE JOURNAL for July. The following committee chairmen have been appointed: Membership, Kerwin P. Purdum; censorship, U. A. Charbonneau; publicity, Charles A. Purdum; legislation, Donald V. Hampton, all of Cleveland.

Third (Akron) District Osteopathic Society

On October 6 Helen Hampton, Cleveland, spoke on "Pediatrics."

Fourth (Columbus or Central) Ohio Osteopathic Society

At Bucyrus, October 9, R. R. Kahle, Columbus, spoke on "The Diagnosis of the Acute Abdomen."

Fifth (Dayton) District Osteopathic Society

On October 4, Louis J. Hoersting, Detroit, was the guest speaker.

On October 27, E. H. Westfall, Findlay, and M. A. Prudden, Fostoria, spoke on "Affairs of State Association."

OKLAHOMA

Eastern Oklahoma Osteopathic Association

On September 25 at Muskogee, C. E. Dickey, Eufaula, spoke on "Mucous Colitis," and a round table discussion followed. The following officers were elected: President, D. D. Beyer, Okmulgee; vice president, W. D. Blackwood, Hartshorne, reelected; secretary-treasurer, Dr. Dickey.

Kay County Osteopathic Association

The officers were reported in THE JOURNAL for July. The following committee chairmen have been appointed: Publicity, legislation and professional development, D. A. Shaffer; convention program and arrangements, D. W. Streitenberger; displays at fairs and expositions, Charles Ball, all of Ponca City.

South-Central District of Oklahoma Osteopathic Association

At Chickasha, September 21, W. S. Corbin, Chickasha, spoke on "Heart Complications Following Influenza," and A. A. Choquette, Chickasha, on "The Diagnosis and Treatment of Neisserian and Leutic Infections."

The October meeting was held at Anadarko.

Tulsa District Osteopathic Association

On October 14, A. V. Fish, Tulsa, spoke on "Osteopathic Reasoning and Technic."

The November meeting will be held on the 11th.

PENNSYLVANIA

Allegheny County Osteopathic Society

At Pittsburgh, September 23, a round table discussion was conducted. The following officers were elected: President, A. D. Durham, Pittsburgh, reelected; vice president, Howard G. McCleland, Bellevue; secretary-treasurer, Charles F. Winton, Pittsburgh, reelected.

North Central Pennsylvania Osteopathic Association

At Williamsport, September 23, C. H. Couch, Troy, discussed "Reduction of Fractures and Application of Casts."

SOUTH DAKOTA

Northeastern South Dakota Osteopathic Association

At Huron, September 12, motion pictures were shown. Two of them dealt with the osteopathic technic of lesion correction and the other with nonoperative treatment of hernia.

TENNESSEE

West Tennessee Osteopathic Association

The officers were reported in THE JOURNAL for August. The following committee chairmen have been appointed: Membership and publicity, Walter L. Baker, Memphis; convention program, L. D. Chesemore, Paris; legislation, C. L. Baker, Memphis.

TEXAS

East Texas Osteopathic Association

At Lufkin, September 30, Laurence E. Giffin, Nacogdoches, demonstrated the injection method in the treatment of hernia. Other features of the program included talks and demonstrations by Frederick H. Summers, Lufkin, Sam Sparks, Dallas, and Howard R. Coats, Tyler.

San Antonio Osteopathic Society

At the October meeting, C. A. Wallin, San Antonio, spoke on "Effects of Toxins on the Heart."

VERMONT

State Association

The following officers were reelected on October 7: President, R. Kenneth Dunn, Brattleboro; vice president, Thomas P. Dunleavy, Barre; secretary-treasurer, Kathleen A. Hunt, Middlebury. The following committee chairmen have been appointed: Professional education, G. E. Loudon, Burlington; professional development, J. H. Blackmer, Randolph; hospitals, R. L. Martin, Montpelier; industrial and institutional service, G. D. Eddy, Burlington; clinics, C. O. Gaskell, Rutland; public health and education, J. H. Spencer, St. Albans; legislation, H. A. Drew, Barre; publicity and public relations, D. S. Atwood, St. Johnsbury; convention program, Kenneth P. Wheeler, Brattleboro; membership, H. I. Slocum, Middlebury; student recruiting, Dr. Dunleavy; statistics, L. D. Martin, Barre; radio, J. Malcomb MacDonald, Rutland; convention arrangements, Dr. Atwood.

WASHINGTON

King County Osteopathic Association

The officers were reported in THE JOURNAL for August. The following committee chairmen have been appointed: Historical, C. L. Bonham; membership, L. J. Bingham; hospitals, W. E. Waldo; student recruiting, W. J. Siemens; public health and education, Rosetta Shortridge; industrial and institutional service, H. F. Kale; clinics, G. W. Brusso; publicity, W. E. Maas; convention program, Lydia S. Merrifield; legislation, A. B. Ford; professional development, Roberta Wimer Ford, all of Seattle.

Pierce County Osteopathic Society

On October 12, C. B. Utterback, Tacoma, spoke on postgraduate work. A recommendation was made to the Washington Osteopathic Association for a compulsory requirement of annual postgraduate work for all osteopathic physicians in the state.

WEST VIRGINIA

Monongahela Valley Osteopathic Society

On October 7, R. H. DeWitt, Wellsburg, read a paper on "The Osteopathic Management of Upper Respiratory Infections."

Ohio Valley Osteopathic Association

At Cadiz, September 23, a demonstration and discussion of sacroiliac technic was conducted.

The Wellsburg Clinic group was in charge of the October meeting.

WISCONSIN

State Association

The midyear meeting was held at Hotel Retlaw, Fond Du Lac, October 9. The following program was presented: "Acute Torticollis," J. J. McCormack, Sheboygan; "The Costs of Osteopathic Freedom," E. J. Elton, Milwaukee; "Diagnostic Value of Backache," L. L. Facto, Des Moines; "Tonsillectomy Problems," A. Paul Atterberry, Milwaukee; "New Factors in Nutrition," Mr. R. M. Sperry of Abbott Laboratories; "Irregularities of the Heart Beat," Dr. Facto; "The Program of the Public and Professional Welfare Committee of the A.O.A.," John E. Rogers, Oshkosh, and H. R. Bullis, Milwaukee.

Fox River Valley District Society of Osteopathic Physicians and Surgeons

The following officers were elected on October 9: President, John E. Rogers, Oshkosh; secretary-treasurer, Helen M. Calmes, Appleton, reelected.

WYOMING

State Association

A new organization of osteopathic physicians has recently been formed in the State of Wyoming. It is known as the Wyoming Association of Osteopathic Physicians and Surgeons. At its meeting in Casper, September 18 and 19, a constitution and by-laws and code of ethics were adopted. Officers were elected and application was made for a charter from the American Osteopathic Association to represent organized osteopathy in Wyoming.

A notice of the intent to issue such chapter is hereby given to the members of the profession and unless valid objection is received the charter will be granted.

The officers of the organization are: President, G. H. Buffum, Sheridan; vice president, M. O. Fuerst, Riverton; secretary-treasurer, E. Ben Sturges, Rock Springs; trustees, G. R. Hollman, Torrington; J. R. Smith, Rawlins; Josephine H. Grange, Sheridan. The following committee chairmen have been appointed: Public relations and professional welfare, Clara Powell Accola, Buffalo; convention program, W. J. Metz, Casper; censorship, L. P. Turner, Cody; legislation, G. A. Roulston, Cheyenne.

R. C. MCCAUGHAN.

Special and Specialty Groups

American College of Osteopathic Surgeons

The American College of Osteopathic Surgeons met in Kirksville October 3 to 5. Reports showed progress in the matter of surgical standards for osteopathic hospitals; indicated the success of the meetings held by the college as a surgical section at the Chicago convention of the American Osteopathic Association and arranged for a continuance of hospital inspection work. Committees were formed to promote the use of motion pictures in awakening interest in surgery and giving instruction therein, and in creating a library of surgical motion pictures.

It was decided to continue the arrangement by which the American College of Osteopathic Surgeons cooperates with the editorial staff of THE JOURNAL OF THE AMERICAN OSTEOPATHIC ASSOCIATION in securing and editing surgical papers, and a forward step was taken in the decision to provide a sixteen page surgical section in THE JOURNAL quarterly, to be edited by Dr. H. L. Collins, with the assistance of the Fellows of the A.C.O.S.

A contribution of $100 was made to the fund of the Committee on Public and Professional Welfare.

The resolutions included the following:

"That we look with favor upon the cordial and cooperative relationship existing between this College and the American Osteopathic Association, and that we shall strive to strengthen that cooperative effort for the advancement of osteopathic medicine and surgery."

The following scientific program was presented:

October 3—"Bone Graft," George M. Laughlin; "Osteopathic Renaissance," W. M. Pearson; "The Transurethral Method," Earl Laughlin, Jr.; "Podalic Version," J. H. Denby; "Cancer of the Breast," G. C. Stukey, all of Kirksville.

October 3—"Traumatic Injuries to the Spine" and "X-Ray Diagnosis," Paul T. Lloyd, Philadelphia; "Article Writing," Ray G. Hulburt, Chicago, Editor of the A.O.A.

October 4—"Pre and Postoperative Body Chemistry," W. C. Brigham, Los Angeles; "Surgery of the Thyroid Gland, E. G. Drew, Philadelphia; "Peptic Ulcer, Its Management and Surgical Treatment," Orel F. Martin, Boston.

Officers were elected as follows: President, Dr. O. O. Bashline, Grove City, Pa.; vice president, Dr. H. E. Lamb, Denver, Colo.; secretary-treasurer, Dr. A. C. Johnson, Detroit, Mich., and trustee, Dr. J. P. Schwartz, Des Moines, Iowa. Dr. E. G. Drew is program chairman for the 1938 convention, which will meet in Cleveland.

American Osteopathic Society of Ambulatory Surgery

The following officers were elected on September 19: President, M. F. Stedman, LeSueur, Minn.; vice president, C. E. Mead, Red Wing, Minn.; secretary-treasurer, Karl Burch, St. Peter. Dr. Burch was appointed chairman of the membership committee.

Middle Atlantic States Osteopathic Association

The seventeenth annual convention was held at the Hamilton Hotel, Washington, D. C., September 25 and 26. The scientific program was presented as follows:

October 25—"The Body Colloids and Osteopathic Lesion Pathology," "The Removal of the Lesion Process," and "The Diagnosis of the Lesion Based Upon Its Pathology," Wallace M. Pearson, Kirksville, Mo.; "Technic," Earl H. Gedney, Philadelphia; "Clinical Aspects of Colloidal Chemistry," and "Thermogenic Treatment of Arthritis," Russell C. Slater, Ottawa, Ill.

October 26—"The Gross Mechanical Problem," and "The Use of X-Ray Studies in Osteopathic Practice," Dr. Pearson; "The Schilling Blood Count," Dr. Slater; "Technic," Dr. Gedney.

The following officers were elected: President, E. G. Hornbeck, Rocky Mount, N. Car.; vice president, B. D. Turman, Richmond, Va.; secretary-treasurer, Charles P. Dickerman, Staunton, Va.

New England Osteopathic Association

The fall meeting was held at Hotel Emerson, York Harbor, Maine, September 24 and 25. The following scientific program was presented: "Anatomical and Physical Basis for Osteopathic Technic," George S. Rothmeyer, Philadelphia; "Pertinent Roentgen Topics," M. C. Pettapiece, Camden, Me.; "The Present Day Status of the Treatment of Diabetes," Gervase C. Flick, Boston; "Unwinding the Shoulder," Dale S. Atwood, St. Johnsbury, Vt.; "Minor Surgery—What to Do and How to Do It," Karnig Tomajan, Boston.

Osteopathic Clinical Society

At Doylestown, September 19, Leo C. Wagner, Lansdowne, Pa., spoke on "Infantile Paralysis"; Wilbur Lutz, Philadelphia, on "Diagnosis and Treatment of Coronary Diseases"; J. Francis Smith, Philadelphia, "The "Recognition of Neurological Signs and Symptoms." Clinics were held in the afternoon.

On October 17 at Hotel Traylor, Allentown, Pa., Carlton Street, Philadelphia, spoke on "Introduction to Office Practice of Gynecology," George S. Rothmeyer, Philadelphia, on "Orthopedic and Basic Osteopathic Fundamentals," and J. Francis Smith, Philadelphia, on "Recognition of Neurological Signs and Symptoms." Clinics were held in the afternoon.

The president and vice president were announced in THE JOURNAL for August. The following are the other officers: Secretary, L. E. Hershey, Honey Brook, Pa.; treasurer, J. A. Whitehouse, Phoenixville, Pa.; director of clinical surgery, Dr. Street.

OSTEOPATHIC MEMBERS OF EXAMINING BOARDS IN THE UNITED STATES AND CANADA

STATE	NAME AND ADDRESS	TERM EXPIRES
*Ariz.	Charles C. Bradbury, 614 Heard Bldg., Phoenix.	
†Ark.	*Byron F. McAllister, 225 N. Block St., Fayetteville.	Nov. 28, 1940
	†L. J. Bell, Cleburne Hotel, Helena.	Dec. 19, 1938
	‡§Chas. A. Champlin, 404 S. Elm St., Hope.	Nov. 28, 1940
	A. H. Sellars, 514 Simmons Natl. Bldg., Pine Bluff.	Dec. 21, 1938
	Eugene M. Sparling, 224 Thompson Bldg., Hot Springs National Park.	Aug. 21, 1938
†Calif.	*Warren B. Davis, 310 1st Natl. Bk. Bldg., Long Beach.	
	†Edward B. Jones, 618 Edwards-Wildey Bldg., Los Angeles.	
	‡§Lester R. Daniels, 307 Forum Bldg. Sacramento.	
	Ernest G. Bashor, 609 S. Grand Ave., Los Angeles.	
	Robert G. Lawson, 210 Post St., San Francisco.	
*Colo.	C. R. Starks, 1459 Ogden St., Denver.	Apr. 12, 1939
	Rodney Wren, 415 Colorado Bldg., Pueblo.	Apr. 12, 1939
†Conn.	*C. M. Van Duzer, Greenwich Lodge, Greenwich.	
	‡Foster D. Clark, 113 Main St., Torrington.	July 1, 1941
	§Frank L. Teall, 51 Howe St., New Haven.	
*D. C.	Chester D. Swope, Farragut Medical Bldg., Washington.	1938
†Fla.	*Arthur G. Chappell, 461 St. James Bldg., Jacksonville.	
	†Dale C. Beatty, 407-08 Equitable Bldg., St. Petersburg.	
	‡§Ralph B. Ferguson, 402-05 1st Natl. Bk. Bldg., Miami.	Aug., 1938
	Emmett W. Flynn, Child Bldg., Tallahassee.	Dec., 1939
	Norval E. Brown, 442 W. Lafayette St., Tampa.	
†Ga.	*Evan P. Davis, 411-15 Marion Bldg., Augusta.	
	†Walter B. Elliott, 702 Mortgage Guarantee Bldg., Atlanta.	
	‡§W. Arthur Hasty, 301-02 Professional Bldg., Griffin.	
	R. E. Andrews, 407 1st Natl. Bk. Bldg., Rome.	Sept. 10, 1938
	Frank F. Jones, 408 1st Natl. Bk. Bldg., Macon.	
†Hawaii	*Isabelle Morelock, 313 Kauikeolani Bldg., Honolulu.	Dec. 23, 1939
	†Bernice L. Gier, 313 Hawaiian Tr. Bldg., Honolulu.	Aug. 7, 1938
	‡Emily C. Dole, 1548 Kewalo St., Honolulu.	
†Idaho	*L. D. Anderson, 308 Eastman Bldg., Boise.	
	‡Andrew McCauley, Smith Bldg., Idaho Falls.	
	Howard B. Catron, Payette.	
‡Ill.	Oliver C. Foreman, 58 E. Washington St., Chicago.	
*Ind.	†E. O. Peterson, 1st Natl. Bk. Bldg., LaPorte.	Sept., 1941
†Iowa	*Hosea B. Willard, Manchester.	June 30, 1939
	‡§Daniel E. Hannan, 201 Bruce-McLaughlin Bldg., Perry.	June 30, 1938
	C. N. Stryker, Sheldon.	June 30, 1940
†Kansas	*William S. Childs, 153 Kastner Bldg., Salina.	May 23, 1938
	‡J. E. Freeland, 21 Columbia Bldg., Coffeyville.	May 23, 1939
	Paul R. Jones, Box 611, Greensburg.	May 23, 1941
	Raymond L. DeLong, 721 1st Natl. Bk. Bldg., Wichita.	May 23, 1940
	Thomas B. Powell, 501½ Broadway, Larned.	May 23, 1941

STATE	NAME AND ADDRESS	TERM EXPIRES
*Ky.	Carl J. Johnson, 514 Breslin Med. Arts Bldg., Louisville.	1941
†La.	*Paul W. Geddes, 915 Slattery Bldg., Shreveport.	Oct., 1940
	‡Henry Tete, 1117 Maison Blanche Bldg., New Orleans.	
	§Coyt Moore, 434 Reymond Bldg., Baton Rouge.	
	Leonard A. Mundis, 611 Guar. Bk. & Tr. Bldg., Alexandria.	
†Me.	*Granville C. Shibles, 825 Main St., Westbrook.	July, 1938
	‡§Albert E. Chittenden, 50 Goff St., Auburn.	July, 1941
	Harry H. Campbell, 142 High St., Portland.	July, 1941
	Olga H. Gross, 77 Main St., Pittsfield.	July, 1939
	Harry J. Pettapiece, 1 High St., Camden.	July, 1942
†Md.	*E. F. Withers, 3 N. 1st St., Denton.	1937
	†Evelyn C. Luke, 608-10 1st Natl. Bk. Bldg., Hagerstown.	1937
	‡§LeGrande M. Bennett, 319 N. Charles St., Baltimore.	1939
	John Wesley Jones, 111 N. Charles St., Baltimore.	1939
	Eunice B. Waugaman, 33 S. Center St., Cumberland.	1939
*Mass.	Mark Shrum, 74 Ocean St., Lynn.	July 1, 1939
†Mich.	*John P. Wood, 212 Wabeek Bldg., Birmingham.	Apr., 1941
	†C. Burton Stevens, 2426 David Stott Bldg., Detroit.	Apr., 1942
	‡§Claude B. Root, 420 S. Lafayette St., Greenville.	Apr., 1939
	F. Hoyt Taylor, 1702-03 Olds Tower, Lansing.	Apr., 1940
	H. Rex Holloway, 807-08 Cent. Natl. Tower, Battle Creek.	Apr., 1938
†Minn.	*Frank F. Graham, 306 Choate Bldg., Winona.	Jan., 1940
	‡§Ernest S. Powell, 924-25 New York Bldg., St. Paul.	Jan., 1939
	Arthur Taylor, 4-6 Torinus Block, Stillwater.	Jan., 1938
	Marshall D. Moffat, 309-10 Providence Bldg., Duluth.	Jan., 1941
	K. Janie Manuel, 220 Meyers Arcade, Minneapolis.	
†Mo.	*Walter E. Bailey, 245 Frisco Bldg., St. Louis.	May 1, 1940
	†H. A. Gorrell, Box 137, Mexico.	May 1, 1939
	‡§Leon B. Lake, 314 Cent. Tr. Bldg., Jefferson City.	May 1, 1938
	F. C. Hopkins, 510 Broadway, Hannibal.	May 1, 1941
	Lou Etta Fellhauer, 409 Thompson Ave., Excelsior Springs.	May 1, 1942
†Mont.	*Charles W. Mahaffey, 21 Pittsburgh Bldg., Helena.	Mar. 27, 1940
	‡Asa Willard, Wilma Bldg., Missoula.	May 13, 1939
	§Willard C. Dawes, Martin Block, Bozeman.	
†Nebr.	*Charles Hartner, Madison.	Nov. 30, 1939
	†Harold A. Fenner, 715 S. Jeffers St., North Platte.	Nov. 30, 1938
	‡§Charles A. Blanchard, 846 Stuart Bldg., Lincoln.	Nov. 30, 1937
†Nev.	‡LeRoy A. Edwards, 139 N. Virginia St., Reno.	Aug., 1938
	W. L. White, Armanko Bldg., Reno.	Aug., 1938
	F. Avery Watson, 209 Ray's Professional Bldg., Las Vegas.	Aug., 1938
*N. J.	§Robert M. Colborn, 810 Broad St., Newark.	
†N. M.	*C. Merwin Bueler, 913 Amer. Bk. Bldg., Tucumcari.	June 14, 1940
	†L. M. Pearsall, 1st Natl. Bk. Bldg., Albuquerque.	
	‡§Caroline C. McCune, 29 Sena Plaza, Santa Fe.	June 14, 1938
	Chas. A. Wheelon, 130 Cathedral Place, Santa Fe.	June 14, 1939
	H. Seamon Rouse, 309 N. Richardson St., Roswell.	
*N. Y.	†Charles Hazzard, 551 Fifth Ave., New York City.	1938
†N. C.	*Talmadge T. Spence, 401 Masonic Temple Bldg., Raleigh.	May, 1939
	‡§Frank R. Heine, N. C. Bank Bldg., Greensboro.	May, 1938
	Sherman T. Lewis, 55 New St., New Bern.	May, 1940
	T. M. Rowlette, 401-02 Cabarrus Bank & Trust Bldg., Concord.	May, 1941
	Ernest W. Bush, Pinehurst.	May, 1942

STATE	NAME AND ADDRESS	TERM EXPIRES
†N. D.	*George E. Hodge, 2½ S. Third St., Grand Forks.	July 1, 1939
	‡§Basil B. Bahme, Reed Bldg., Dickinson.	July 1, 1938
	C. D. Thompson, 606 New Black Bldg., Fargo.	July 1, 1940
‡Ohio	** *‡J. H. B. Scott, 502 1st Natl. Bank Bldg., Columbus.	May, 1939
	W. R. Gregg, 5 S. Main St., Oberlin.	May, 1940
	Frank A. Dilatush, Ivins-Jameson Bldg., Lebanon.	May, 1938
†Okla.	*Donald A. Shaffer, 401 Community Bldg., Ponca City.	No time limit
	†E. Paul Harris, 214-15 Perrine Bldg., Oklahoma City.	No time limit
	‡§Lawrence A. Reiter, 323 Thompson Bldg., Tulsa.	No time limit
*Ore.	J. L. Ingle, Sacajawea Annex, La Grande.	Feb. 28, 1942
†Pa.	*Harry M. Vastine, 109 Locust St., Harrisburg.	1942
	Ralph P. Baker, 45 E. Orange St., Lancaster.	1938
	L. S. Irwin, 610-11 Wash. Tr. Bldg., Washington.	1937
	Harold J. Dorrance, 632-42 Duquesne Way, Pittsburgh.	1938
	Wesley P. Dunnington, Stephen Girard Bldg., Philadelphia.	1937
	‡††Mrs. Elizabeth W. Gillen, Dept. of Pub. Instruction, Harrisburg.	
*R. I.	*W. B. Shepard, 911 Ind. Trust Bldg., Providence.	
†S. D.	*C. Steele Betts, Box 205, Huron.	Apr. 1, 1938
	†W. G. Rosencrans, Citizens Bank Bldg., Vermillion.	Apr. 1, 1939
	‡§C. Rebekka Strom, 321 S. Phillips Ave., Sioux Falls.	Apr. 1, 1940
†Tenn.	*C. L. Baker, 1520 Exchange Bldg., Memphis.	Apr. 26, 1938
	‡Edwin C. Ray, 207 Bennie-Dillon Bldg., Nashville.	Apr. 26, 1938
	§Otto Y. Yowell, Hamilton Natl. Bk. Bldg., Chattanooga.	Apr. 26, 1941
	R. L. Park, 603 S. High St., Trenton.	Apr. 26, 1938
*Tex.	Phil R. Russell, 602 Floyd J. Holmes Bldg., Ft. Worth.	
	R. H. Peterson, 324-28 Hamilton Bldg., Wichita Falls.	1940
†Utah	*B. W. Clayton, 401 Boston Bldg., Salt Lake City.	No time limit
	†R. H. Prindle, 1256 24th St., Ogden.	No time limit
	‡§Maud P. Callison, 517 Templeton Bldg., Salt Lake City.	No time limit
†Vt.	*Dale S. Atwood, 65 Railroad St., St. Johnsbury.	Jan. 31, 1939
	‡Raymond L. Martin, 24 Elm St., Montpelier.	Jan. 31, 1938
	§Howard I. Slocum, Battell Block, Middlebury.	Jan. 31, 1940
*Va.	E. H. Shackleford, 504-11 Methodist Bldg., Richmond.	Apr. 1, 1938
†Wash.	Arthur B. Cunningham, 511 Shafer Bldg., Seattle.	No time limit
	Harry L. Davis, 406-08 Baker Bldg., Walla Walla.	No time limit
	Manford R. Kint, Bremer Bldg., Bremerton.	No time limit
†W. Va.	*Robert B. Thomas, 826-27 First Huntington Natl. Bk. Bldg., Huntington.	
	†Harwood James, New Lilly Bldg., Beckley.	
	‡Guy E. Morris, 542 Empire Bk. Bldg., Clarksburg.	June 30, 1940
*Wis.	E. C. Murphy, 314 E. Grand Ave., Eau Claire.	
*Wyo.	C. W. Tarrant, Box 692, Laramie.	May 20, 1941
*Alta.	Edmund A. Roe, 322 Tegler Bldg., Edmonton.	No time limit
*Ont.	*Robert B. Henderson, 57 Bloor St., W., Toronto.	June, 1939
	E. S. Detwiler, 444 Waterloo St., London.	June, 1938
*Sask.	Anna E. Northup, 922 Main St., N., Moose Jaw.	No time limit

*Composite Board
†Osteopathic Board
‡Medical Board

*President.
†Vice President.
‡Secretary.
§Treasurer.
**Osteopathic Committee.
††Lay Secretary, not a member of the board.

CHANGES OF ADDRESSES AND NEW LOCATIONS

Abel, Franklin E., PCO '37; 187 Stone Ave., Yonkers, N. Y.

Adams, Everett H., from 33 Deerfield Ave., to 305 Judd Bldg., 75 Pearl St., Hartford, Conn.

Adkison, Robert G., KCOS '37; 617 Atlas Life Bldg., Tulsa, Okla.

Aelmore, Robert E., KCOS '37; Nickerson, Kans.

Alspach, William P., from Findlay, Ohio, to Corner Plant & Lockwood Sts., Webster Groves, Mo.

Anderson, J. G., from Butte, Mont., to 116 Oak St., Anaconda, Mont.

Andrews, Hazel M., from Painted Post, N. Y., to 138 Minorca Ave., Coral Gables, Fla. (Winter address)

Bailey, Hannah W., from Chicago, Ill., to 246 Harrison Ave., Hasbrouck Heights, N. J.

Baldwin, J. D., KC '33; Purdy, Mo.

Barnes, Elaine, from Alpena, Mich., to Saginaw Osteopathic Hospital, Saginaw, Mich.

Bartlett, Roy H., from R. F. D. No. 1, to 108 Shelburne Road, Burlington, Vt.

Benson, Louis E., COPS '37; 6015 Hollywood Blvd., Los Angeles, Calif.

Benteen, Harold D., from Arcola, Ill., to 639 Cedar St., Chillicothe, Ill.

Bowden, Alice M., from Yardley, Pa., to Pearl River, N. Y.

Breeden-Walsh, Alma M., from Ambassador Arms, to South & Division Sts., Stamford, Conn.

Breese, Thomas W., from Morristown, N. J., to 37 Mitchell Place, White Plains, N. Y.

Bunting, Arthur H., PCO '37; Massachusetts Osteopathic Hospital, Boston, Mass.

Burd, James A., from 19 Second Ave., to 58 First Ave., Gloversville, N. Y.

Buxton, William B., from 229-30 First Bank Bldg., to 816-17 First Natl. Bank Bldg., Utica, N. Y.

Channing, Stanley H., KCOS '37; 550 Hotel Baltimore, Kansas City, Mo.

Chapin, Ross E., PCO '37; Osteopathic Hospital of Philadelphia, 48th & Spruce Sts., Philadelphia, Pa.

Cofeld, Edgar R., from Buffalo, N. Y., to 64 N. Long St., Williamsville, N. Y.

Coker, Doris R., from Sebring, Fla., to Gay Bldg., Panama City, Fla.

Coker, R. Philip, from Sebring, Fla., to Gay Bldg., Panama City, Fla.

Conaway, John H., from Des Moines, Iowa, to 614 W. Third St., Muscatine, Iowa.

Cooper, Gilbert O., from 3923½ W. 23rd St., to 1675 W. Santa Barbara Ave., Los Angeles, Calif.

Cottrille, W. Powell, from 1901 Fourth St., to 1208 Jackson City Bank Bldg., Jackson, Mich.

Cranston, Adele D., from 1718½ Main St., to 1618 Broadway, Parsons, Kans.

Crismond, Joseph J., from Brunswick, Mo., to Mitchell Clinic & Sanitarium, Main & South Sts., Excelsior Springs, Mo.

Deming, Guy S., PCO '37; 32 De-Forest Ave., Summit, N. J.

Dickinson, B. F., PCO '37; Osteopathic Clinic, 321 W. Lehigh Ave., Philadelphia, Pa.

Donisthorpe, Donald M., COPS '37; 1401 Santa Fe Ave., Los Angeles, Calif.

Downing, Edwin M., from Schmidt Bldg., to 26 N. Pine St., York, Pa.

Ellison, William H., from Farmington, N. H., to 425 Ninth Ave., N. E., St. Petersburg, Fla. (Winter address)

Emig, Mary E., COPS '37; 3709 E. Second St., Long Beach, Calif.

Erbes, William P., COPS '37; 305 E. Avenue 31, Los Angeles, Calif.

Evans, David J., from Edinburgh, Scotland, to 450 Collins St., Melbourne, Victoria, Australia.

Fanelly, Frank F., from Akron, Ohio, to 408 E. Main, Kent, Ohio

Farley, Cecil H., from Kansas City, Mo., to 116 E. Forest St., Girard, Kans.

Fishleigh, Leila, B., from 316 Mohawk Bldg., to 322 Old Natl. Bank Bldg., Spokane, Wash.

Fuller, Caroline G., from Somers, Conn., to 408 S. Eola Drive, Orlando, Fla. (Winter address)

Gilkey, Wallace E., KCOS '37; 607 Kalamazoo Natl. Bank Bldg., Kalamazoo, Mich.

Gillinder, F. Robert, from Lansdale, Pa., to 508 Chestnut St., Lebanon, Pa.

Goldner, J. Henry, Jr., from Los Angeles, Calif., to 9530 Brighton Way, Beverly Hills, Calif.

Glascock, Alfred D., from 343 Third Ave., N., to Walgreen Bldg., St. Petersburg, Fla.

Green, Fred C., from Durant, Okla., to Commercial Hotel, Waynoka, Okla.

Greenbaum, Leonard G., from 619 Smythe Bldg., to 213-15-17 Schofield Bldg., Cleveland, Ohio

Greene, Philip A., PCO '37; Elnora, Saratoga Co., N. Y.

Grinnell, L. Jason, from Providence, R. I., to 201½ W. Main St., Palestine, Texas

Gross, Lester P., from Seattle, Wash., to Route 1, Jefferson, Maine

Hall, William F., from Kansas City, Mo., to 233 Franklin Ave., Des Moines, Iowa

Hamilton, Stanley D., Jr., from St. Louis, Mo., to Linden, Mich.

Hansel, J. H., from Ames, Iowa, to 611 Milan, South Pasadena, Calif.

Heisler, John L., KC '31; 620 Bennington, Kansas City, Mo.

Herren, Thomas C., COPS '37; Box 117, Kelso, Wash.

Hicks, S. R., from Detroit, Mich., to 1600 Ogden St., Denver, Colo.

Hill, W. F., from Whitehall, Mich., to Route No. 1, Montague, Mich.

Hobson, G. Nelson, COPS '37; 105 N. Garfield Ave., Monterey Park, Calif.

Hoersting, Leo H., from 2045 Philadelphia Drive, to 137 N. Main St., Dayton, Ohio

Honsinger, E. S., from Wellman, Iowa, to 11937 E. Colfax Ave., Aurora, Colo.

Hormavirta, Hilkka O., from 126 Peter St., to Central Bldg., 45 Richmond St., W., Toronto, Ontario, Canada.

Hylander, George B., from 5212 Pentridge St., to 777 So. 52nd St., Philadelphia, Pa.

Inwood, Garfield (See correction, page 22 of this issue of THE JOURNAL)

Irvin, L. S., from 610-11 Washington Trust Bldg., to 931-32 Washington Trust Bldg., Washington, Pa.

Irvin, Walter S., from Marietta, Ohio, to Shirley, W. Va.

JoDon, M. Mary, from 419 First Natl. Bank Bldg., to 401-2-4 Security Mutual Bldg., Lincoln, Nebr.

Johnson, Bernard O., KCOS '37; 303 Palace Bldg., Tulsa, Okla.

Johnstone, Emily K., from Ventura, Calif., to Box 709, Ojai, Calif.

Jolley, W. W., DMS '37; Custer, S. Dak.

Jurgenson, G. Earl, DMS '37; Meservey, Iowa

Kagan, Harvey D., COPS '37; 6496 Ivarene Ave., Hollywood, Los Angeles, Calif.

Kaiser, Ruth, from Excelsior Springs, Mo., to R. F. D. No. 4, North Kansas City, Mo.

Kirkpatrick, Hugh T., from 701 Olympia Bldg., to 1389 N. W. Seventh St., Miami, Fla.

Knight, R. Russell, COPS '37; 721 Whittier Blvd., Montebello, Calif.

Lee, Frank Y., from Long Beach, Calif., to Los Angeles County Osteopathic Hospital, 1100 N. Mission Road, Los Angeles, Calif.

Littlefield, Don C., from Des Moines, Iowa, to 1143 Mission Road, Los Angeles, Calif.

Lose, Wilbur A., from Arbuckle, Calif., to Los Angeles County Osteopathic Hospital, 1100 N. Mission Road, Los Angeles, Calif.

Lyon, Chester, H., COPS '37; Los Angeles County Osteopathic Hospital, 1100 N. Mission Road, Los Angeles, Calif.

MacDonald, W. A., KCOS '37; Arkansas City Office Bldg., Arkansas City, Kans.

MacFarland, David L., from Bayonne, N. J., to 23 Mine Brook Road, Bernardsville, N. J.

Manley, Victor J., from West Springfield, Mass., to 111 St. James Ave., Springfield, Mass.

Martin, Basil F., from Snell Bldg., to 425-28 Florida Natl. Bank Bldg., St. Petersburg, Fla.

Mathison, Nelson E., COPS '37; 3709 E. Second St., Long Beach, Calif.

Matteson, Reginald G., from 210 Palmer Ave., to 250 Reed Ave., Syracuse, N. Y.

Maxfield, Thomas O., from Bloomfield, N. J., to 661 Prospect St., Maplewood, N. J.

McCorkle, John L., from Norwood, Pa., to 5331 Baltimore Ave., Philadelphia, Pa.

McDonald, Marvin T., KC '37; Box 84, Platte City, Mo.

McGraw, Minnie O., 218 Shankman Bldg., Kansas City, Mo.

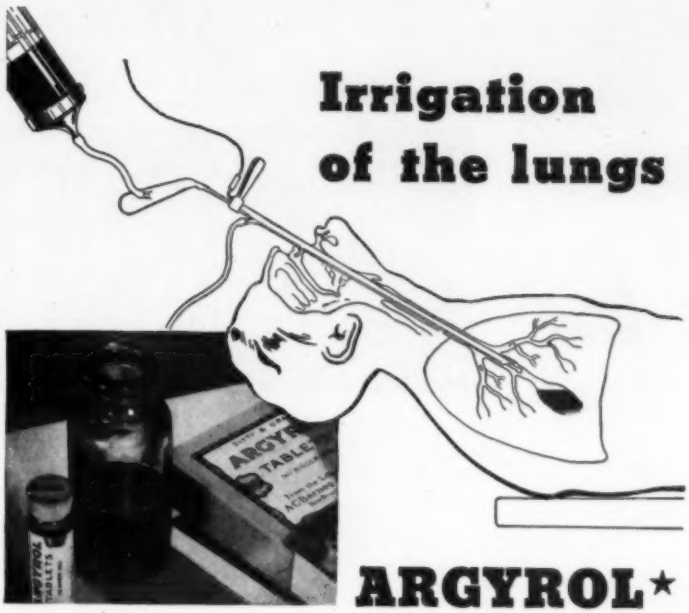
McNerney, Joe, DMS '37; 603 E. 12th St., Des Moines, Iowa

Merner, Harry B., from 301 St. James Bldg., to 203-04 Jenks Bldg., Jacksonville, Fla.

Metcalf, Charles A., from 136 Park View Ave., to 25 Exchange Bldg., 27 State St., Bangor, Maine

Mill, Melvin C., from New Madrid, Mo., to 1600 Ogden St., Denver, Colo.

Morey, Rollo J., from Kirksville, Mo., to 225 W. Seventh St., Parkersburg, W. Va.
Morgan, Harold K., DMS '37; 2221 Downing St., Denver, Colo.
Morrison, John H., CCO '37; 5250 Ellis Ave., Chicago, Ill.
Mount, Charles W., from St. Paul, Kans., to Box 97, Belle Plaine, Kans.
Nauman, Eric P., CCO '37; 501-02 Gaskins Bldg., Fort Wayne, Ind.
Nerby, Frances C., PCO '37; 4541 Fernhill Road, Germantown, Philadelphia, Pa.
Newman, Delle A., from Detroit, Mich., to 1765 Fort, Lincoln Park, Mich.
Niehouse, George K., from Denver, Colo., to 333 Judge Bldg., Salt Lake City, Utah
Overton, Melvin M., from Chicago, Ill., to 501 Bibb Bldg., Macon, Ga.
Patterson, H. M., KCOS '37; Morning Sun, Iowa
Penquite, Ivan E., DMS '37; Knoxville, Iowa
Peppard, Harold M., from 70 Park Ave., to 104 E. 40th St., New York, N. Y.
Pierce, Edward G., PCO '37; 708 Main St., Clarion, Pa.
Pimentel, Alfred L., KCOS '37; 15 Savery Ave., Plymouth, Mass.
Pollock, C. E., from Fordsville, Ky., to Whitesville, Ky.
Rhoads, Alva T., from Green City, Mo., to 307 State Natl. Bank Bldg., Corsicana, Texas
Robinson, Wilmot F., COPS '37; Los Angeles County Osteopathic Hospital, 1100 N. Mission Road, Los Angeles, Calif.
Roop, George B., from Rich Hill, Mo., to 1629 N. W. 29th St., Oklahoma City, Okla.
Roscoe, Percy E., from 1001 Huron Road, to 630 Osborn Bldg., Cleveland, Ohio
Rosenberg, M. Casper, COPS '37; 1747 Sichel, Los Angeles, Calif.
Rosy, Henry R., from Platte City, Mo., to 4903 Delmar Blvd., St. Louis, Mo.
Routledge, Norman W., from 34 Fifth St., to 15 Ursuline Ave., Chatham, Ont., Canada
Rushton, J. C., Jr., from Idaho Falls, Idaho, to P. O. Box 994, St. Anthony, Idaho
Schroeder, Simon, COPS '37; 208-09 Chotiner Bldg., 3000 W. Eighth St., Los Angeles, Calif.
Sellew, Robert H., from 26 Liberty St., to 347 Livingston Ave., New Brunswick, N. J.
Shub, William E., PCO '37; 625 Boston St., Lynn, Mass.
Sibley, H. O., from Cleveland, Ohio, to 505 Detroit-Warren Road Bldg., Lakewood, Ohio
Sikkenga, A. Leon, from 64, Brook St., to 140, Park Lane, London, W 1, England
Simers, M. H., COPS '37; 1527 Linda Rosa, Eagle Rock, Los Angeles, Calif.
Smith, Bertha C., from Easthampton, Mass., to 221 Powers Bldg., Rochester, N. Y.
Smith, Charles E., from Los Angeles, Calif., to Mason Clinic, Mason, W. Va.



Irrigation of the lungs

ARGYROL★

IRRIGATION of the lungs with Argyrol solution has been practised successfully in subacute and chronic abscess, in all stages of catarrhal or purulent bronchitis, in bronchiectasis and in limited suppuration. It is especially effective in the bronchitides following the acute infections or eruptive diseases, particularly in "la grippe" and in the bronchitis popularly called "cold in the chest."

A noted laryngologist writing on this subject* favors the use of Argyrol solution as an irrigation medium and ascribes the excellent results attained over a period of fifteen years to the astringent, bactericidal and detergent properties contained in the solution. The treatment, he says, is easy to administer, it has no contraindications, and may be employed in conjunction with other measures.

In all mucous membrane inflammations, Argyrol solution has met the supreme test of long years of experience. There are many mild silver proteins, but only one Argyrol, the prototype of them all, and it stands in a class by itself because no other silver product contains silver in the same physical and chemical state nor protein of a similar high quality and suitability. Our solution has never been successfully duplicated.

Your insistence on the name *Barnes* on all solutions ordered or prescribed will insure the results that you may expect from Argyrol.

*Schultz, W. F. A., Jour. Missouri State Med. Ass'n, July, 1937

ARGYROL is made only by A. C. BARNES

★ A. C. BARNES COMPANY, INC., NEW BRUNSWICK, N. J.
FOR 36 YEARS SOLE MAKERS OF ARGYROL AND OVOFERRIN

"Argyrol" is a registered trade-mark, the property of A. C. Barnes Co., Inc.

Smith, Dagmar M., from 4200 Irving Park Blvd., to 4123 Belle Plaine Ave., Chicago, Ill.
Smith, George T., from Holyoke, Mass., to 221 Powers Bldg., Rochester, N. Y.
Stauffer, George E., Jr., from 7038 McCallum St., to 8018 Germantown Ave., Philadelphia, Pa.
Stefan, Wm. K., from Wahoo, Nebr., to 716 Lincoln St., Watsonville, Calif.
Steinbaum, Paul S., from Bayonne, N. J., to Laughlin Hospital, Kirksville, Mo.
Steninger, Delmar R., from Keota, Iowa, to Wellman, Iowa
Stewart, W. Luther, from 703 Washington St., to 525 Johnson St., Alexandria, La.
Swisher, Hubert P., Jr., from 2020 McGowen Ave., to 1016 Louisiana, Houston, Texas
Taylor, Arthur T., from Oak Park, Ill., to 5920 Walton St., Chicago, Ill.
Taylor, Owen O., from Oberlin, Kans., to 512 Bryant Bldg., Kansas City, Mo.
Terhuwen, Helen, from 1015 Warner Bldg., to 910 Third Natl. Bank Bldg., Nashville, Tenn.
Thomas, Robert L., from Columbus, Ohio, to 740 S. Flower St., Los Angeles, Calif.
Thompson, Homer M., from Sparta, Mo., to Lockney Drug Bldg., Lockney, Texas
Thompson, Jerry R., from Sparta, Mo., to 3-4 Bass, Parrish & Taylor Bldg., Sherman, Texas

(Continued on page 22)

At all times . . . but especially when vaginal irrigation is to be employed consistently over a considerable period . . . the preparation for the douching solution should be non-irritating to the vaginal mucosa, otherwise more harm than good may result. When you prescribe LORATE for your patients who may be benefited by vaginal irrigation, you are assured that no harm can result from the therapeutic agent, regardless of the strength employed. You may also be certain that with Lorate the greatest detergent and cleansing effectiveness is attained. Lorate is an alkaline powder, pleasingly perfumed and useful wherever a non-astringent douche is indicated.

INDICATIONS: Simple cleansing douche; during and after menstruation; in leucorrhea, trichomonas vaginalis and other forms of vaginitis; cervicitis; after childbirth and gynecological operations; for pessary wearers; as a deodorant. FORMULA: Sodium perborate, sodium bicarbonate, sodium chloride, menthol and aromatics. DOSAGE: 2 teaspoonfuls to each quart of water. Stronger solutions may be used if desired.

A trial supply gladly sent on request.

Lorate Company, Inc., 125 West 18th Street, New York, N. Y.

LORATE

THE THERAPEUTIC VAGINAL DOUCHE POWDER

CHANGES OF ADDRESS

(Continued from Page 21)

Trimble, Roy G., from Montezuma, Iowa, to 907 Pellissier Bldg., Los Angeles, Calif.

Trottman, Bruce G., from Wetumka, Okla., to 229 Benson Bldg., Holdenville, Okla.

Van Doren, Sara, from 112 Craft at Fifth Ave., to 123 Cathedral Mansions, Elsworth Ave., Pittsburgh, Oakland Sta., Pa.

Van Riper, Mildred J., from 3591 163rd St., to 144-76 Sanford Ave., Flushing, L. I., N. Y.

von Lohr, Morgan W., from Elderon, Wis., to Helenville, Wis.

Walters, Harold L., DMS '37; Dell Rapids, S. Dak.

Wasney, Victoria, from 4529 Spruce St., to 4632 Spruce St., Philadelphia, Pa.

Weinberger, Leon, PCO '37; 4288 Parkside Ave., Philadelphia, Pa.

Welch, George C., from Salisbury, Mo., to 2608 Independence Ave., Kansas City, Mo.

White, John M., COPS '37; Mother Lode Hospital, Jamestown, Calif.

Whiting, Lorenzo D., from Los Angeles, Calif., to 1629 Huntington Drive, South Pasadena, Calif.

Willcox, Sarah G., KCOS '37; Laughlin Hospital, Kirksville, Mo.

Williams, Ben, from 513 Swift Bldg., to 409 Swift Bldg., Columbus, Ga.

Williams, C. Arthur, from 605 Medico-Dental Bldg., to 312 N. Larchmont Blvd., Los Angeles, Calif.

Williams, Elmer L., KCOS '37; 530 Elms Blvd., Excelsior Springs, Mo.

Williams, Walter J., from 306 Skaggs Bldg., to 213-15 Skaggs Bldg., Plainview, Texas

Wolfe, A. R., from Detroit, Mich., to 13904 Michigan Ave., Dearborn, Mich.

Wood, John J., from Kirksville, Mo., to Fowler Bldg., Centralia, Ill.

Zaehringer, Herman P., PCO '37; 153 Argonne Drive, Kenmore, N. Y.

Zecca, Ralph M., PCO '37; 1540 S. 13th St., Philadelphia, Pa.

CORRECTION

Change of address for Garfield Inwood was published erroneously in the October JOURNAL. Dr. Inwood goes to Vermontville, Mich., for only two months out of the year. His permanent address is 5802 W. Ohio St., Chicago, Ill.

HERNIAL PROLIFERANT

ALPARENE!

A highly effective, rapidly acting, self-sterilizing, *non-toxic* and *painless* colloidal solution which produces a firm fibrous reinforcement and tautening of the inguinal structures. *Write for Literature*

60 cc. rubber capped vial $5.00

Dequin Physicians Products Co.,
75 East Wacker Drive, CHICAGO, ILL.

ANNOUNCEMENT

DR. M. A. BRANDON OF LORAIN, OHIO, WILL CONDUCT A CLASS IN AMBULANT NEEDLE SURGERY

November 27-30 Inclusive

HERNIA

Subjects to be taught are thorough courses in the Injection Treatment of Hernia, Hydrocele, Varicocele, and Varicosities. Needle surgery in Hemorrhoids, Fissure, Fistula, etc. Coagulation of Tonsils, Turbinates, and Eroded Cervix. The new Injection Method of treating the Enlarged Prostate Gland and Impotency will be taught. Special and new technique is used. This 4-day class of practical training in Ambulant Surgery, should prepare you to increase your income 100%. Fee $100. $50.00 to be paid on application, and the balance on registration. I insist that the Doctors do the Injecting. There will be plenty of clinical material.

HERNIA

APPLICANTS FOR MEMBERSHIP

Arkansas

Crawford, Glenn F. (Renewal), Monticello.
Cowley, Flora L., 415 N. Main St., Siloam Springs.

California

Ackland, Vivian L., 2947 S. Harcourt Ave., Los Angeles.
Thomas, Joseph M. (Renewal), 740 S. Flower St., Los Angeles.
Sutton, Loren A., 234 E. Colorado, Pasadena.
Wyckoff, A. B. (Renewal), 1355 N. Lake Ave., Pasadena.
Barker, Michael A. (Renewal), 693 Sutter St., San Francisco.
Brainerd, B. D. (Renewal), American Bank Bldg., San Leandro.
Shride, Lloyd M., 116 S. Locust St., Inglewood.
Moore, Margaret L. (Renewal), 220 Junipero Ave., Long Beach.
Schwartz, Milton, 1100 N. Mission Road, Los Angeles.

Colorado

Morris, James I. (Renewal), 1554 California St., Denver.

Connecticut

Riemer, LeRoy Porter (Renewal), 983 Main St., Hartford.
Chapdelaine, Ernest E., 158 Main St., Putnam.

Florida

Manchester, R. G., 135 W. Arlington St., Gainesville.
Hillyer, Charles C., 315-16 Graham Bldg., Jacksonville.
Ferguson, C. B. (Renewal), 402 First Nat'l Bank Bldg., Miami.

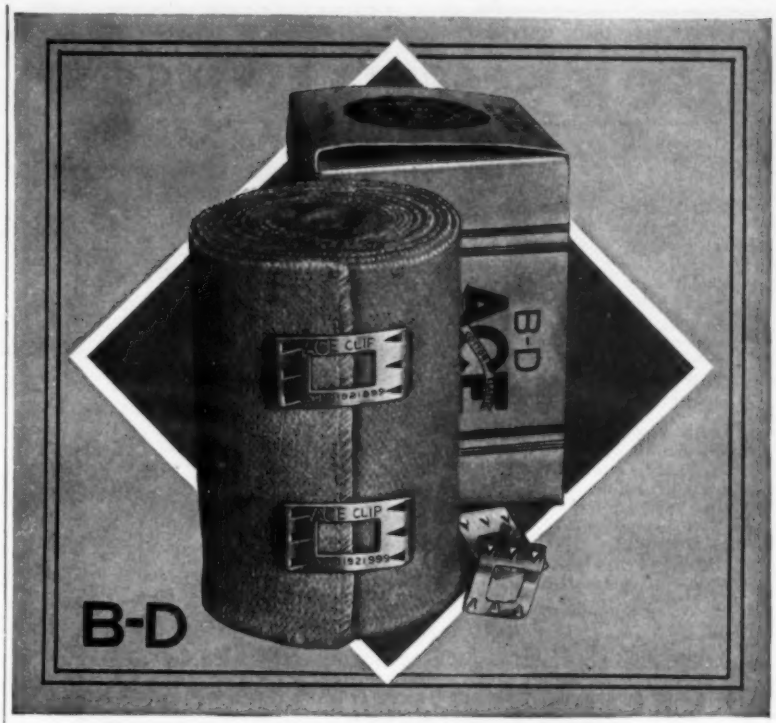
Hawaii

Runyan, Mabel A. (Renewal), 404 Boston Bldg., Honolulu.
Spencer, Daisy E., 1433 Pensacola St., Honolulu.

Idaho

Cusick, W. Rogers, 217 Civic Center Bldg., Wallace.

(Continued on page 24)



ACE BANDAGES

ELASTIC without Rubber... and WASHABLE

COMFORTABLE... the flexible open weave affords elasticity and ventilation. Adjustable pressure.

COOL... All-cotton, no rubber. Light but firm support without hindering circulation.

CLEAN... Simple washing in warm water also renews elasticity.

ECONOMICAL... the ACE is durable and may be repeatedly used for many types of application—any place on the body.

FOR WOMEN... the ACE No. 7 is suggested, It is silk-filled, flesh-tinted, with flat woven edges. Women prefer this ACE because it is inconspicuous.

B-D PRODUCTS
Made for the Profession

BECTON, DICKINSON & CO., RUTHERFORD, N. J.

A Few Copies of the

1937 A.O.A. Directory

For Sale to Members Only
$1.00 Per Copy

Orders Limited to One Copy
No Orders Accepted From Non-Members or Commercial Firms

(1938 Edition Ready in January)

SEND CASH WITH ORDER

American Osteopathic Association
540 N. Michigan Ave., Chicago

VM-2+A

A food product, processed from concentrates of fourteen cereal, fruit and vegetable sources, indicated in the treatment of

RENAL CALCULUS

Send for your copy of "Vitamineral Therapy"

A rich broad natural Vitamin and organic Mineral base fortified with a high Vitamin A potency offers a potent supplement in the treatment of this condition.

Sold only thru the profession

VITAMINERALS, INC.
3636 Beverly Blvd. Los Angeles, Calif.

FOR SLEEPLESSNESS

A hot drink before retiring is an aid in promoting restful sleep. Horlick's Malted Milk, hot, has special advantages for this purpose in that it is pleasant in flavor, easily and quickly digested, bland and nourishing.

The busy practitioner, tired mentally and physically from the strain of a long day, often finds relief in this simple measure—a hot drink of "Horlick's" to invite sleep. Why not try it yourself?

Following operations, Horlick's is an excellent vehicle for administering sedatives and hypnotics.

HORLICK'S *the Original* **MALTED MILK**

HORLICK'S MALTED MILK CORPORATION, Racine, Wis.

If You Have Not Seen

a recent copy of

Clinical Osteopathy

A request on a postal card will bring you one—without obligation. Address California Osteopathic Association, 799 Kensington Road, Los Angeles.

APPLICATIONS—CONTINUED

Illinois

Kinney, Lecta Fay,
5628 Winthrop Ave., Chicago.
Fish, J. W. (Renewal),
507 Standard Office Bldg., Decatur.
Curl, Loretto L.,
212 E. Court, Paris.

Iowa

Sash, H. M. (Renewal),
206 Farmers Bank Bldg., Atlantic.
McQuirk, Phil S. (Renewal),
Audubon.
Mosley, L. B. (Renewal),
2711 Avenue L, Fort Madison.
Stone, Dwight H. (Renewal),
Knoxville.
Wintermute, Mabel (Renewal),
Lenox.
Kimberly, Faye C. (Renewal),
Menlo.
Benz, Fritz (Renewal),
Quasqueton.
Bodwell, Ross C. (Renewal),
706 First Nat'l Bank Bldg.,
Waterloo.
Groves, G. B. (Renewal),
301 Marsh Place Bldg., Waterloo.
Parks, Fannie Springmire (Renewal),
222 W. Jefferson St., Winterset.

Kansas

Thornburg, George D. (Renewal),
409½ S. Oak St., Garnett.
Price, Emma Hook (Renewal),
921 Monroe St., Hutchinson.
Murphy, Richard J. (Renewal),
Tipton.
Pearson, Karl M. (Renewal),
208 Huron Bldg., Kansas City.

Kentucky

Korten, Frank V. (Renewal),
613 Ofallon Ave., Dayton.
Hoggins, Josephine (Renewal),
218 Capital Ave., Frankfort.

Michigan

Moore, Hobert C. (Renewal),
Ridotto Bldg., Bay City.
Rector, Emma (Renewal),
173 Catalpa Ave., Benton Harbor.
Akens, G. Tracy,
9825 Grand River Ave., Detroit.
Lawrence, Winston E.,
Box 702, Frankfort.
Warner, Cecil G. (Renewal),
318 Graceland, N. E., Grand Rapids.
Strong, Bess E. (Renewal),
519 High St., Ionia.
Ashley, R. M. (Renewal),
2842 Biddle Ave., Wyandotte.

Minnesota

Meyers, Hazel M.,
47 S. 9th St., Minneapolis.
Towner, R. M., (Renewal),
Preston.
Jorstad, Ezra O. (Renewal),
202 W. Main St., Marshall.

Missouri

Bush, Sterl S.,
Box 224, Anderson.
Zumbrun, W. F. (Renewal),
Bolivar.
Lillard, Sam J. (Renewal),
Canton.

APPLICATIONS—CONTINUED

Wolf, T. W.,
317 S. Main St., Carthage.
Delezene, Edward W.,
115 S. 3rd St., Chaffee.
Delezene, Mabel M. (Renewal),
115 S. 3rd St., Chaffee.
Brown, E. D. (Renewal),
Collins.
Cannon, Stuart T. (Renewal),
First Nat'l Bank Bldg., Dexter.
Fisher, Emory O. (Renewal),
Excelsior Osteopathic Sanitarium,
Excelsior Springs.
McCracken, Marvin L.,
Flemington.
Wise, Cecil G. (Renewal),
Harris.
Jeter, W. A. (Renewal),
120 E. 4th St., Hermann.
Coggins, Lucius Bedent,
Higginsville.
Strickland, O. M.,
515 Frisco Bldg., Joplin.
Curry, Etna Kelso (Renewal),
2015 Linwood Blvd., Kansas City.
Heisler, John L. (Renewal),
620 Bennington, Kansas City.
Kauffman, Elizabeth (Renewal),
3431 Prospect Ave., Kansas City.
McGraw, Minnie O. (Renewal),
3119 Troost Ave., Kansas City.
Richardson, R. A. (Renewal),
2609 Walnut St., Kansas City.
Tice, Elbert A. (Renewal),
620 Shukert Bldg., Kansas City.
Cooter, J. L. (Renewal),
LaBelle.
Ferry, Nelle M. (Renewal),
130½ N. Cedar St., Nevada.
Baldwin, J. D.,
Purdy.
Beets, R. H. (Renewal),
Ridgeway.
Eichhorn, E. L. (Renewal),
Salisbury.
McFall, Lawrence (Renewal),
426 Kirkpatrick Bldg., St. Joseph.
Ice, Ralph Kenneth (Renewal),
313 N. 9th St., St. Louis.
Glaze, Lowell (Renewal),
206 Ilgenfritz Bldg., Sedalia.
Beets, J. C.,
Stanberry.
Taylor, Harry R. (Renewal),
Weaubleau.

Montana

Maier, R. K. (Renewal),
127 S. 2nd St., Livingston.
Crew, L. A. (Renewal),
Gardiner.

North Carolina

Wilson, Warren W. (Renewal),
221 S. Garnett St., Henderson.

Nebraska

Zuspan, A. G. (Renewal),
Aurora.

Enzymes and Vitamins (B-G)
of BREWERS YEAST
in Agar Agar Emulsion of
60% MINERAL OIL

NOT
"JUST ANOTHER"

For Constipation—Colitis

ZYMENOL COMBINES:—

Natural Enzymes of Brewers Yeast
which through catalytic activity check both putrefaction and excess fermentation. Fecal mass becomes soft and bulky, less toxic, less irritating.

Natural Vitamins B-G of Brewers Yeast
scientifically shown to aid restoration of intestinal tonicity.

Mineral Oil (Agar Agar Emulsified)
Mainly a carrier for Brewers Yeast products but also supplies inabsorbable moisture to assure lubrication and soft fecal bulk.

The combined action brings about regular bowel evacuation from natural impulse without roughage, artificial bulk or irritative stimulant drugs.

Only TEASPOON DOSAGE

• Sugar Free • No Leakage • Less Expensive

ZymenoL
Yeast Enzymes in Oil Emulsion

Write for samples

OTIS E. GLIDDEN & CO. EVANSTON ILLINOIS

New Hampshire

Gove, John M. (Renewal),
7 S. State St., Concord.

New Jersey

Laidman, H. A., PCO '37;
111 Harrison St., East Orange.
Still, Benjamin F. (Renewal),
610 Salem Ave., Elizabeth.
Battaglino, Charles B., PCO '37,
930 Gillies Ave., North Bergen.

(Continued on page 26)

• FOR PAIN OF MUSCLE, JOINT OR NERVE ORIGIN
BET-U-LOL
THE ETHICAL TOPICAL ANODYNE
• THE HUXLEY LABORATORIES, INC. NEW YORK, N. Y.

ACUTE INFECTIONS

of the

HEAD *and* NECK..

such as:

OTITIS MEDIA

•

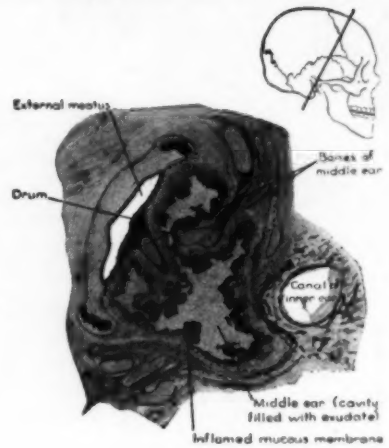
SUBLINGUAL CELLULITIS

•

CERVICAL ADENITIS

•

INFECTED HAIR FOLLICLES



. . . are frequently materially assisted by the *repair-stimulating qualities* of

Antiphlogistine

Generous clinical sample and complete literature on request from

THE DENVER CHEMICAL MANUFACTURING COMPANY

163 VARICK STREET · NEW YORK, N. Y.

APPLICATIONS—CONTINUED

New York

Kellam, Lawrence J. (Renewal), 606 Press Blvd., Binghamton.

Dillenbeck, W. E. (Renewal), 115 E. Seneca St., Ithaca.

Warner, Robert C. (Renewal), 318 Kempf Bdg., Utica.

White, John F. (Renewal), 250 Genesee St., Utica.

Ness, Wm. F. (Renewal), 619 Elmwood Ave., Buffalo.

Coombs, LeRoy (Renewal), 454 Ft. Washington Ave., New York.

Norfleet, Charles H. (Renewal), 627 Park Ave., Rochester.

Ross, Robert R. 2507 James St., Syracuse.

Ohio

Wilson, Frank J. (Renewal), 513 Miami Savings Bldg., Dayton.

Wisterman, Howard E. (Renewal), 205 Steiner Bldg., Lima.

Stahr, D. M. (Renewal), 321 Orr-Flesh Bldg., Piqua.

Waltermire, D. D. (Renewal), 125 S. Main St., Fostoria.

Wright, Lottie E. (Renewal), 220 E. Liberty St., Wooster.

Oklahoma

Rummel, Chauncey D. (Renewal), Groom Bldg., Bristow.

Glass, F. W., Dustin.

Fish, A. V. (Renewal), 218-19 Pythian Bldg., Tulsa.

Johnson, Bernard O., KCOS '37 (June), 303 Palace Bldg., Tulsa.

Shea, Louis Martin (Renewal), 1224-26 Hunt Bldg., Tulsa.

Wheeler, Edward Brooks (Renewal), 113½ N. Maple, Nowata.

Unverferth, Virginia (Renewal), 705 Palace Bldg., Tulsa.

Pennsylvania

Fritzsche, R. W., 137 S. 2nd St., Bangor.

Sweet, B. W. (Renewal), 216 W. Seventh St., Erie.

Whinney, Robert A., PCO '37, 7035 Torresdale Ave., Philadelphia.

Cox, Robert C. (Renewal), 315 Charles St., Pittsburgh.

Casler, Gerald W. (Renewal), 417 Peach St., Erie.

Bush, Frederick L. (Renewal), 30 S. Franklin St., Wilkes Barre.

Rhode Island

Kirby, William E., 217½ Waterman St., Providence.

Pennine, S. N. (Renewal), 118 Empire St., Providence.

South Dakota

Betts, J. Gordon (Renewal), Box 386, Spearfish.

Texas

Cain, E. W., KCOS '37 (June), 203 Oliver-Eakle Bldg., Amarillo.

Bedwell, Mary G. (Renewal), 1229 N. Bishop Ave., Dallas.

(Continued on Page 30)

Endocrines with Osteopathy

Male Cycle - Endocrine Food No. 100 Hepatic Cycle - Endocrine Food No. 300

Female Cycle - Endocrine Food No. 200 Enzydyn - Digestive Enzymes

Fresh and potent endocrine products direct from laboratory at reasonable cost. Send today for complete literature and direct-to-patient plan.

Endocrine Food Company Union City New Jersey

1938 DIRECTORY

OF OSTEOPATHIC PHYSICIANS

PUBLISHED BY THE

AMERICAN OSTEOPATHIC ASSOCIATION

Size 6x9. 256 Pages

RATES AND POSITION

Advertising printed on enamel inserts.
Agency commission 15%

RATES PER INSERTION

Space	One-color
1 page	$45.00
½ page	25.00
¼ page	15.00

No less than one-quarter page sold to any commercial advertiser.

Covers, Special Positions and Inserts—
Rates on Application

Members and osteopathic institutions will be given a discount except on professional cards, which are net.
Page is 2 columns, each column 2¾ inches.
Depth of column, 105 agate lines.
Halftones—120 screen. Composition—no charge.

ISSUANCE AND CLOSING DATES

Published about Jan. 1, 1938
Advertising forms close Dec. 15, 1937

MECHANICAL REQUIREMENTS—UNITS ACCEPTED

SPACE	WIDTH	DEPTH	WIDTH	DEPTH
1 Page	4⅝	7½	—	—
½ Page	4⅝	3⅝	2¼	7½
¼ Page	2¼	3⅝	4⅝	1¾

CIRCULATION

Approximately 7,000 copies. Price, $10.00 per copy. One copy furnished free to every member, and directory advertisers using ¼ page or more; $5.00 to A.O.A. advertisers and exhibitors.

CLASSES OF ADVERTISING ACCEPTED

Diagnostic and Therapeutic Equipment.
Hospital Supplies and Equipment.
Surgical and Laboratory Supplies.
Pharmaceuticals and Chemicals.
Office Furniture and Equipment.
Office Records and Stationery.
Uniforms, Gowns, Aprons.
Professional Cards.
Schools, Colleges, Camps.
Postgraduate Courses, Laboratory Service.
Hospitals, Sanitariums, Laboratories.
Medical and Osteopathic Books
Transportation, Hotels, Resorts.
Insurance, Investments.
Foods, Wearing Apparel, Toilet Requisites.
Everything for the physician or patient.

ALL COPY SUBJECT TO OUR APPROVAL

.....1937

THE AMERICAN OSTEOPATHIC ASSOCIATION
540 N. Michigan Ave., Chicago, Ill.

You are hereby authorized to insert $\frac{\text{my}}{\text{our}}$ advertisement in the 1938 Directory of Osteopathic Physicians, to occupy..... page, for which $\frac{\text{I}}{\text{we}}$ agree to pay the rate as announced on this page for such space as agreed upon and used.

All conditions of this contract are mentioned herein. Copy subject to publisher's approval.

Accepted for

The American Osteopathic Association Signature.....

By..... Address.....

YOUR PROFESSIONAL CARD

IN THE

1938 A. O. A. Directory

May Bring You Referred Work

HOWARD EARL LAMB, D. O.
SURGEON
DENVER, COLO

Leslie Scranton Keyes, D.O.
Steiner Building
47 S. 9th St.
MINNEAPOLIS, MINN.

RILEY D. MOORE
WASHINGTON, D. C.

Bertha W. Branstetter
Osteopathic Physician
Hotel Mayflower
PALM BEACH, FLORIDA

NEW YORK CITY
Dr. A. Bowman Clark
Dr. Louis H. Copeley
77 Park Ave
Cor. 39th St.
—
General Osteopathic Practice
—
LONG ISLAND OFFICE
90 CATHEDRAL AVE.
HEMPSTEAD

DR. G. W. READE
Osteopathic Physician
EAST ORANGE, N. J.
49 Prospect St.
3 Doors from William St.

Facsimile of a typical page reduced about one-half.

Special net rates for professional cards:

Size 2¼x1¾	$ 8.00
Size 2¼x3¾	12.00
Size 4⅝x1¾	12.00
⅛ Page	20.00
1 Page	36.00

Professional cards will be placed in geographical order in a special section.

ACT NOW!

Advertising Forms Close December 15th

AMERICAN OSTEOPATHIC ASSOCIATION

540 N. Michigan Ave. **Chicago, Ill.**

THE ROCKY MOUNTAIN CLINICAL GROUP

in DENVER

"The Gateway to America's Most Beautiful Vacationland"

DR. R. R. DANIELS, Diagnosis
DR. PHILIP A. WITT, Surgery and Urology
DR. H. M. HUSTED, Eye, Ear, Nose and Throat
DR. EDW. W. MURPHY, Associate
DR. FRANK I. FURRY, Orificial Surgery and Physical Therapy
DR. PHILIP D. SWEET, Structural Analysis
DR. N. ESTELLE PARSLEY, General Practise
DR. H. I. MAGOUN, Successor to Dr. D. L. Clark
DR. L. GLEN CODY, General Dentistry and X-Ray
DR. RALPH B. HEAD, General Practise and Anaesthesia
DR. FREEDA LOTZ-KELLOGG, Endocrinology and General Practise
DR. H. V. BANKS, Orthodontia and Pediodontia
DR. LESTER F. REYNOLDS, Obstetrics and General Practise
DR. EMMA ADAMSON, Colonic Therapy and Osteopathy
MISS E. A. ELDRIDGE, Laboratory and X-Ray Technician

1550 Lincoln Street — MEMBERS OF STAFF, ROCKY MOUNTAIN OSTEOPATHIC HOSPITAL — Clinical Building

CALIFORNIA

LOS ANGELES
MERRILL SANITARIUM
Neuropsychiatric
Downtown Office
609 South Grand Avenue

DR. THOMAS J. MEYERS
NEUROPSYCHIATRY
Migraine
EPILEPSY
419-421 Pacific-Southwest Bldg.
234 East Colorado St.
PASADENA CALIF.

Drs. Edward B. Jones
and
Forest J. Grunigen
609 So. Grand Ave.
Los Angeles, Calif.
Practice limited to
Urology—Dermatology—Proctology

Dr. J. H. Goldner
Osteopathic Physician
9530 Brighton Way
Beverly Hills, Calif.

COLORADO

Dr. W. L. Holcomb
Dr. E. E. English
General Surgery and Practice
Staff members Rocky Mountain Osteopathic Hospital
430 Empire Building
430 16th St.
Denver, Colorado

Classified Advertisements

RATES PER INSERTION: $2.00 for 20 words or less. Additional words 10 cents each.

TERMS: Cash with order.

COPY: Must be received by 20th of preceding month.

FOR SALE: 3-story stone house in desirable section Brooklyn, N. Y., suitable for doctor's office and residence. Small practice included. Full description and terms on request. Box 56 c/o Journal.

OSTEOPATHIC SURGEON: Competent and experienced young osteopathic surgeon wishes to locate in town where general surgeon is needed and where hospital privileges are available. Small income acceptable if future prospects are good. Can secure license in any state. References that count. Box 54 c/o Journal.

WILL SELL a $9,000 cash practice located 18 miles from New York City, for $4,500 cash. Will introduce purchaser. Write N.Y.C. c/o Journal.

WANTED: Nurse and laboratory technician combined, also with knowledge of physiotherapy and x-ray. Address M. L. K., c/o Journal.

WANTED: McManis Treatment Table. Will pay cash. State condition, type, accessories, age. Address Suite 303, Keith Theatre, Syracuse, N. Y.

AMBULANT PROCTOLOGY: Lectures on Ambulant Proctology and the Injection Treatment of Hernia. Price $5.00. Individual instruction given. Dr. P. H. Woodall, 617 First National Bank Bldg., Birmingham, Ala.

FEW COPIES of Halladay's "Applied Anatomy of Spine" available at $2.00 postpaid. Address E. Harwood, 722 Sixth Ave., Des Moines, Iowa.

DISTRICT OF COLUMBIA

DR. CHESTER D. SWOPE
Osteopathic Physician
The Farragut Apts.
Washington, D. C.

FLORIDA

Dr. R. C. Wunderlich
Osteopathic Physician
807-808 Equitable Bldg.
St. Petersburg, Florida

Dr. J. C. Howell
Specializing in Ambulant Proctology (Rectal Diseases), and kindred conditions, such as Constipation, Gas, Indigestion, Nervousness, and the Reproductive Organs, of both sexes.
473 N. Orange Avenue
Orlando, Florida
Phone 4395 for Free Consultation

Dr. S. J. Herst
Physician and Surgeon
Bastian Bldg.
835 LINCOLN ROAD
MIAMI BEACH, FLORIDA

GEORGIA

Dr. D. L. Anderson
General Osteopathic Practice
Also
Injection Methods for Hernia, Varicose Veins and Hemorrhoids
1124 Mortgage Guarantee Bldg.
Atlanta

ILLINOIS

FULLER & SOURS OSTEOPATHIC HOSPITAL
W. S. Fuller, D. O.
General Hospital and Clinical Service
801 N. Main St.
Bloomington, Ill.

IOWA

DR. ARTHUR D. BECKER
Osteopathic Physician
General Diagnosis
Cardiologist
Des Moines General Hospital
Des Moines, Iowa
Practice limited to consultation

MISSOURI

Collin Brooke, D.O.
Practice Limited to Proctology—Varicose Veins —Hernia
ST. LOUIS
210 Frisco Bldg., 906 Olive St.

NEW YORK

Dr. Thomas R. Thorburn
Dr. J. Marshall Hoag
HOTEL BUCKINGHAM
101 W. 57th Street
New York City

RHODE ISLAND

Dr. F. C. True
SURGEON
1763 Broad St.
PROVIDENCE, R. I.
CHIEF SURGEON
R. I. OSTEOPATHIC HOSPITAL

TEXAS

Dr. O. L. Cooper
Osteopathic Physician-Surgeon
546-547 Milam Bldg.
San Antonio, Texas

WASHINGTON

Dr. A. L. Goff
Liver Therapy
Removal of Toxins Via
The DETOXANIZING System
5039 15th Ave., N.E.
Seattle, Wash.

APPLICATIONS—CONTINUED
(Continued from page 26)

Cooter, William V. (Renewal), 1028 Esperson Bldg., Houston.
Williams, Walter J., 213-15 Skaggs Bldg., Plainview.
Garrison, A. L., 417 Adams Bldg., Port Arthur.
Mendicino, Anthony T. (Renewal), 511 Hicks Bldg., San Antonio.
Thompson, E. D. (Renewal), 38 W. Twohig St., San Angelo.

Utah

Bailey, S. W., 901 Walker Bank Bldg., Salt Lake City.
Hartwell, Elbert E. (Renewal), 511-12 Templeton Bldg., Salt Lake City.

Vermont

Slocum, L. Evelyn, (Renewal), 109 Soule St., Bennington.
Pearsons, Earl F. (Renewal), 13 Church St., Rutland.

Washington

Clarke, Dwight D. (Renewal), 203 E. 5th St., Olympia.
Jenkin, George W. (Renewal), 8 N. Main St., Omak.
Tracy, Isabelle (Renewal), 408 Palomar Bldg., Seattle.
McConnell, W. F. (Renewal), First Nat'l Bank Bldg., Waitsburg.

Wyoming

Van Vleck, Clinton C., Jackson.

FRANCE

William J. Douglas, D.O.
43 Avenue George V.
(Champs Elysees)
PARIS
Tel. Elysées 60-51
FRANCE

Canada

Chambers, Gordon R. (Renewal), 25 King St., Truro, Nova Scotia.
Johnston, Eric B. (Renewal), 25 W. King St., Toronto, Ontario.

South Africa

Pattie, Martha (Renewal), 517 Geneva House, Cape Town, South Africa.

GLEASON BELTS
For Sacro-Iliacs
$1.50 each
Give measurement around pelvis
DR. A. H. GLEASON
702 Park Bldg.
Worcester, Mass.

For Your Convenience when ordering Current Issues of O. M. & O. H.

OSTEOPATHIC MAGAZINE

Delivered in Bulk to Your Office	Annual Contract	Single Order
Under 200 copies	$6.00 per 100	$6.50 per 100
200 or more	5.00 per 100	5.50 per 100

Mailed direct to list—$1.50 per 100 extra without professional card; $2.50 per 100 extra with professional card.

OSTEOPATHIC HEALTH

Delivered in Bulk to Your Office	Annual Contract	Single Order
Under 200 copies	$4.00 per 100	$5.00 per 100
200 or more	3.75 per 100	4.75 per 100

Mailed direct to list—$1.50 per 100 extra—with or without professional card. 5% for cash on orders of 500 or more. Professional card imprinted free on orders of 50 or more. Shipping charges prepaid (except foreign). Samples on request.

Both mail for one cent if sent unsealed and without enclosures.

American Osteopathic Association, 540 N. Michigan Ave., Chicago.

Please send_____ copies of
Osteopathic Magazine, _____ Issue With professional card_____
Osteopathic Health, No._____ Without professional card_____

Name_____

Address_____

Index to Advertisers—Patronize Them

Books, Literature, Charts

American Osteopathic Associations....23, 27, 28, 32, 33, 34
Clinical Osteopathy....24
Nelson, Thomas, & Sons....5
Saunders, W. B., Company....Cover I

Colleges, Training Schools, P. G. Courses

Brandon, Dr. M. A....22
College of Osteopathic Physicians and Surgeons....31
Kirksville College of Osteopathy and Surgery....Cover III

Foods, Waters and Toilet Preparations

Davis, R. B., Co....3
Horlick's Malted Milk Corporation....24
Kalak Water Company of New York, Inc....7
Mellin's Food Company....17
S. M. A. Corporation....9
Wander Company, The....20

Instruments, Appliances, Equipment, Surgical Dressings, Supplies

Becton, Dickinson & Co....23
Burdick Corporation....12
Clay-Adams Co....19
DeVilbiss Company....16
Gleason, Dr. A. H....30
McIntosh Electrical Corporation....7
Storm, M.D., Katherine L....19
Tampax, Incorporated....14
Taylor Instrument Companies....1

Miscellaneous

American Can Company....8
Classified Ads....29
Professional Cards....29, 30

Pharmaceutical, Endocrine and Vitamin Products

Barnes Company, A. C....21
Baydilor, Inc....19
BiSoDol Company....6
Bovinine Company....11
Bristol-Myers Co....18
Ciba Pharmaceutical Products, Inc....Cover II
DeQuin Physicians Products Co....22
Denver Chemical Manufacturing Co....26
Endocrine Food Company....26
Glidden, Otis E., & Co....25
Huxley Laboratories, Inc....25
Leeming & Co., Inc., Thos....10
Lorate Company, Inc....22
Lupex Company, Inc....10
Od Peacock Sultan Co....5
Schering Corporation....13
Spicer and Company....17
St. Joseph's Laboratories....5, 16
Vapo-Cresolene Co....31
Vitaminerals, Inc....23
Vitamin Products Company....Cover IV
Warner, Wm. R. & Co., Inc....4
Winthrop Chemical Company, Inc....15
Young, W. F., Inc....12

College of Osteopathic Physicians and Surgeons

1721 Griffin Ave.

LOS ANGELES, CALIFORNIA

Entrance Requirements

The College of Osteopathic Physicians and Surgeons requires TWO FULL YEARS OF COLLEGE WORK including physics, general chemistry, organic chemistry, zoology, English, social sciences and electives aggregating 60 semester units. This work may be obtained in any accredited college if of satisfactory character. This requirement MUST BE COMPLETED before entering the Freshman class.

The professional course consists of four years and fulfills all legal requirements for the unlimited license of physician and surgeon in California. This is the only osteopathic college whose diploma admits to the examinations for this license. ADMITTED TO FULL REGISTRATION SEPTEMBER 1, 1936, BY THE DEPARTMENT OF EDUCATION OF THE STATE OF NEW YORK.

The fourth or Senior year is altogether practical in character and consists of nine months spent in the Los Angeles County Osteopathic Hospital as assistant internes or clinical clerks. This arrangement really makes our Senior year equivalent to a year of interneship.

Affiliated institutions consist of the Los Angeles County Maternity Service and the Los Angeles County Osteopathic Hospital, a division of the Los Angeles County General Hospital. From twenty-five to thirty internships are available on graduation in the Los Angeles County Osteopathic Hospital and certain other hospitals. For information address the college.

WHOOPING COUGH

The Paroxysmal Stage

℞ Vapo-Cresolene (specially prepared cresols of coal tar) sedative, antiseptic, antispasmodic, penetrating.

Vaporized at night to relieve the paroxysms at that time; the strength of the patient will be conserved.

An inhalant of known dependability. Introduced in 1879.

Controls cough in broncho-pneumonia and bronchitis. Dyspnoea in spasmodic croup and bronchial asthma.

ELECTRIC VAPORIZER

Write for special discount to physicians and informative Treatise, "Effective Inhalation Therapy."

LAMP-TYPE VAPORIZER

THE VAPO-CRESOLENE CO.
62 CORTLANDT STREET NEW YORK, N. Y.

G

Name.....

Street.....

Address.....

Christmas Issues of

Osteopathic Magazine

and

Osteopathic Health

OSTEOPATHIC MAGAZINE

Let me compliment you on the appearance, readability and the wholesome information to be found in the last issue of the Osteopathic Magazine. I have enjoyed every bit of it.

GEORGE J. CONLEY, D.O.

Osteopathic Health No. 96

ACIDOSIS AND ALKALOSIS—

This article unmasks these much advertised afflictions, for which this or that remedy is "sold" over the radio and through the press. It tells what acidosis and alkalosis really mean.

CONQUERING FATIGUE—

An article written especially for "tired office athletes"—those who wonder why they become fatigued easily and why their nerves are "on edge."

KEEPING FIT WITH OSTEOPATHY—

Tells how osteopathic manipulative therapy prevents illness and keeps one in the "pink" at all times.

USE ORDER BLANK ON PAGE 30

Cover of Osteopathic Magazine (shown at left) is printed in deep blue and bright red, with an additional greeting on the back cover.

Let Them Carry Your

Christmas Greetings

to your

Patients and Friends

CHEAPER AND BETTER THAN GREETING CARDS

December Osteopathic Magazine Titles

DEPOSING THE CAPTAIN. By George R. Hockzema, D.O.

"Captain of the Men of Death" is the name given in this article to pneumonia. The author describes the grim adversary's methods of fighting, and osteopathy's distinctive role in deposing him.

HOW SPINAL CURVATURE AFFECTS HEALTH. By Ray E. McFarland, D.O.

Using a typical case as illustration, the author discusses the immediate and deferred effects of this condition, linking them up with the osteopathic concept.

BEFORE OSTEOPATHY—WHAT? By Harold I. Magoun, D.O.

An unusually interesting article showing how Nature has guided men and animals to seek through certain instinctive actions to normalize body conditions, and how osteopathy is just one step further along the path where Nature leads.

NORTH WITH MACMILLAN. By Philip J. Haigis.

An osteopathic student relates some of his experiences on the 1937 Arctic Expedition under Commander MacMillan, including a vivid account of a shipwreck in the far north.

A COUNTRY DOCTOR ON THE MEXICAN BORDER. By John M. Peterson, D.O.

On call twenty-four hours a day, miles from his nearest associates, this Texas doctor describes some of the vicissitudes of practice in a sparsely populated section of the country.

THE GREAT PHYSICIAN.

A quotation from Phillips Brooks, having to do with the Great Healer, and appropriate to the Christmas season.

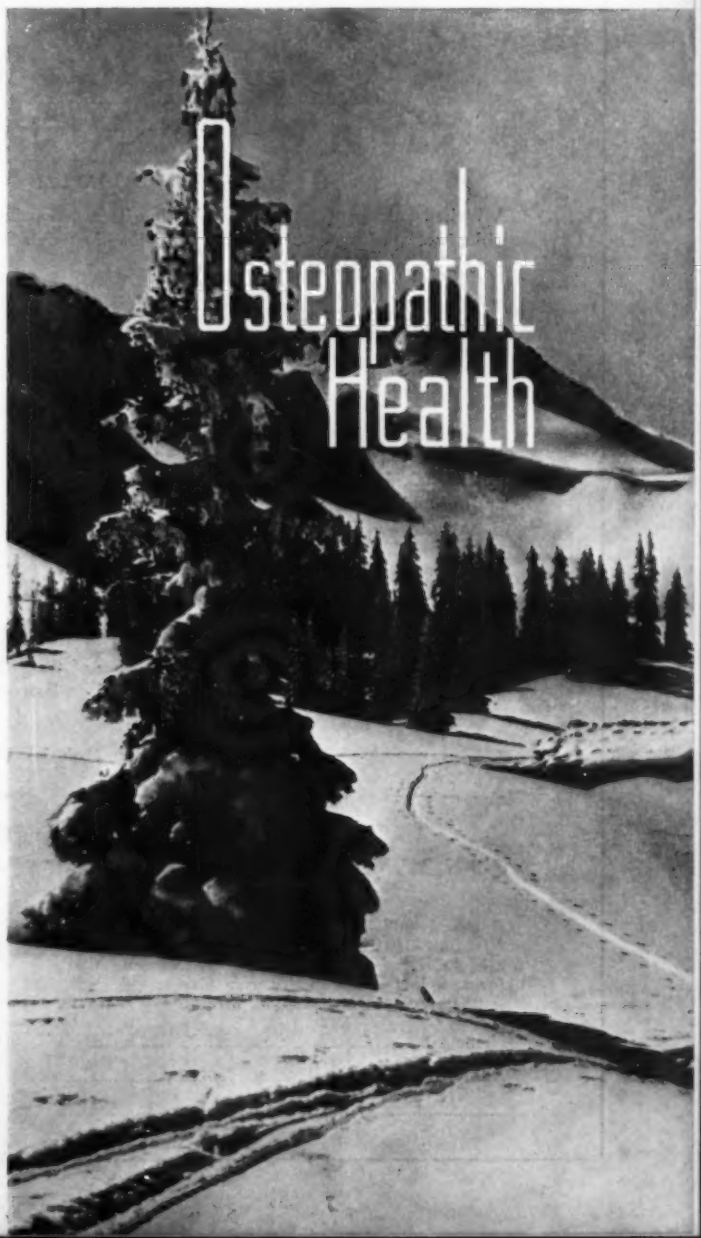
INDUSTRIAL ACCIDENTS AND THE ROENTGENOLOGIST. By C. A. Tedrick, D.O.

A discussion of the part played by the x-ray in diagnosing and treating industrial accidents.

SANTA VISITS THE CLINIC. By Sally Dickson.

A preview of the annual Christmas party at the New York Osteopathic Clinic, and a brief account of some of the Clinic's activities.

American Osteopathic Association
540 N. Michigan Ave., Chicago, Ill.



Cover of Osteopathic Health (shown at right) is printed in deep blue with greeting in bright red across the lower

Three New Editions

Exceptional demands for the following out of print booklets has resulted in the publication of new editions.

Modern Miracle Men

By REX BEACH—Famous Novelist

A fascinating discussion of osteopathy which was originally run in The Cosmopolitan Magazine, and reproduced by permission of that publication and the author. Printed on ivory book paper. The illustrations have been omitted, cutting it from 24 to 16 pages. Size 5¾x8¾. Mails unsealed for 1½c per copy.

PRICE: $4.00 per 100. 500 or more, $3.75 per 100. Envelopes: 25 cents per 100.
Imprinting: 50 cents per 100.

Osteopathy, the Science of Healing by Manipulation

By PERCY H. WOODALL, D.O.—Past President of A.O.A.

A revised edition of a booklet which has been a popular seller for twenty years. Printed on good quality white stock, with self cover, and including the original illustrations. 32 pages. Size 5x7½. Mails unsealed for one cent per copy.

Price: $5.50 per 100. 500 or more, $5.25 per 100. Envelopes: 25 cents per 100.
Imprinting: 50 cents per 100.

Osteopathy as a Career

U. S. Office of Education, Department of the Interior, with authority of and by Walter J. Greenleaf, Specialist in Higher Education. One of a series of government vocational guidance leaflets, revised to date, and printed on high grade stock. 12 pages. Size 6x9. Mails unsealed for 1½c per copy.

PRICE: $3.00 per 100. 500 or more, $2.75 per 100. Envelopes: 25 cents per 100.
Imprinting: 50 cents per 100.

Now Ready for Delivery

The price on orders for less than 100 of any of these three titles will be prorated at the rate for 100. No orders for imprinting of the professional card on less than 100.

To Facilitate Ordering Use These Coupons

American Osteopathic Association

540 N. Michigan Ave. Chicago, Ill.

SAMPLE COUPON

Enclosed find ..... cents in stamps for sample ☐ Modern Miracle Men; for sample ☐ Osteopathy, the Science of Healing by Manipulation; for sample ☐ Osteopathy as a Career.

Samples: 4 cents each, all three for 10 cents

Name .....

Address .....

.....

ORDER BLANK

Please send (transportation prepaid in U. S. and Canada, foreign extra) ..... copies Modern Miracle Men; ..... copies Osteopathy, the Science of Healing by Manipulation; ..... copies Osteopathy as a Career; ..... Imprinting as per attached copy; ..... Mailing envelopes desired.

Terms: Cash with order or within 10 days from receipt of bill.

PRIDE

We take pride in the fact that the Osteopathic Profession has sent us the largest freshman class in the history of the institution.

223 NEW STUDENTS

We take this opportunity to thank the profession for what we consider a compliment and a responsibility. We assure you that we will do our utmost to give these young men and women the best in sound osteopathic training and education.

The further advancement of our building program, together with complete equipment, experienced faculty, and pride in osteopathy combine for continued improvement in our work.

●

KIRKSVILLE COLLEGE *of* OSTEOPATHY *and* SURGERY

KIRKSVILLE, MISSOURI

What is a VITAMIN?

Is a vitamin an essential part of food? Are these complex food elements necessary for the maintenance of health and the prevention of disease?

PNEUMONIA

or influenza, or coryza, or respiratory disease, at this time of year, is often caused by low vitality and lowered resistance, which in turn may be due to a vitamin-deficient diet. In these cases and wherever a vitamin deficiency is *the* or *a* causative factor, Vitamin Complexes are a natural normalizing aid from the dietary side, and should be treated as such with *"V·P" Vitamin Concentrates* from natural food sources. (See Vitamin News for pneumonia schedule.)

Address all inquiries to the Milwaukee office

VITAMIN PRODUCTS COMPANY

2023 W. WISCONSIN AVE. MILWAUKEE, WISCONSIN